

SERVICE MANUAL

FINISHER
MJ-1103/1104



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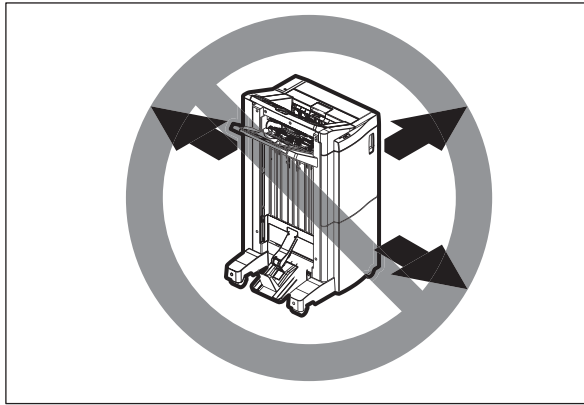
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General Precautions for Installation/Service/Maintenance for MJ-1103/1104

The installation and service should be done by a qualified service technician.

1. When installing the MJ-1103/1104, be sure to follow the instructions described in the “Unpacking/ Set-Up Procedure for the MJ-1103/1104”.
2. The MJ-1103/1104 should be installed by an authorized/qualified person.
3. The Finisher is quite heavy; MJ-1103 weighs approximately 40 kg (88.19 lb.) and MJ-1104 weighs approximately 70 kg (154.32 lb.), therefore pay full attention when handling it.
4. Before starting installation, servicing or maintenance work, be sure to turn OFF and unplug the equipment first.
5. The equipment shall be installed near the socket outlet and shall be accessible.
6. Be sure to fix and plug in the power cable securely after the installation so that no one trips over it.
7. When selecting the installation site, avoid placing the finisher / hole punch unit and equipment on different levels or inclined floors.
8. The equipment shall be installed near the socket outlet and shall be easily accessible.
9. When the MJ-1103/1104 is removed from the equipment due to malfunction or other reasons but no substitute machine is to be installed, be sure to remove all the installation hardware from the equipment as well.
10. When servicing or maintaining the MJ-1103/1104, be careful about the rotating or operation sections such as gears, pulleys, sprockets, cams, belts, etc.
11. When parts are disassembled, reassembly is basically the reverse of disassembly unless otherwise noted in this manual or other related materials.
Be careful not to reassemble small parts such as screws, washers, pins, E-rings, toothed washers, harnesses to the wrong places.
12. Basically, the machine should not be operated with any parts removed or disassembled.
13. Delicate parts for preventing safety hazard problems (such as switches, sensors, etc. if any) should be handled/installed/adjusted correctly.
14. Use suitable measuring instruments and tools.
15. During servicing or maintenance work, be sure to check the serial No. plate and other cautionary labels (if any) to see if they are clean and firmly fixed.
If not, take appropriate actions.
16. The PC board must be stored in antistatic envelope and handled carefully using a wristband, because the ICs on it may be damaged due to static electricity.
Before using the wrist band, pull out the power cable plug of the equipment and make sure that there is no uninsulated charged objects in the vicinity.

17. For the recovery and disposal of used MJ-1103/1104, consumable parts and packing materials, follow the relevant local regulations/rules.
18. After completing installation, servicing and maintenance of the MJ-1103/1104, return the MJ-1103/1104 to its original state, and check operation.
19. When the equipment is used after the option is removed, be sure to install the parts or the covers which have been taken off so that the inside of the equipment is not exposed.
20. When you move the finisher, do not move it in the direction of the arrow as shown in the figure below otherwise it might topple over.



21. Unplug the power cable and clean the area around the prongs of the plug and socket outlet once a year or more. A fire may occur when dust lies on this area.

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1. SPECIFICATIONS, ACCESSORY AND CONSUMABLES

1.1 Specifications

- Product Type
 - MJ-1103: Console Finisher (2 trays)
 - MJ-1104: Console Saddle Stitch Finisher (3 trays)
- Paper Stacking Device Stationary Tray or Movable Tray, Saddle Tray (MJ-1104)
- Paper Size A3, A4, A4-R, A5, A5-R, A6-R, B4, B5, B5-R, FOLIO, A3 wide, LD, LG, LT, LT-R, ST, ST-R, COMPUTER, 13"LG, 8.5"SQ, 8K, 16K, 16K-R
- Paper Basis Weight 64 - 300g/m²
- Stacking Mode Simple, Job Offset, Staple and composite, Center-binding (MJ-1104)
- Dimensions
 - with Sub-tray put in: W 617 x D 603 x H 1,085 (mm)
 - with Sub-tray drawn out: W 750 x D 603 x H 1,085 (mm)
- Gross Weight
 - MJ-1103: Approximately 40kg (88.19 lb)
 - MJ-1104: Approximately 70kg (154.32 lb)
- Power Supply DC24V±10% and DC5V±5% supplied from the main equipment.
- Power Consumption
 - DC24V Average 3.7A or less
 - 5V 1.0A or less

1.1.1 Finisher section (Common for MJ-1103/1104)

- Stacking Type Facedown
- Stacking Height with

Stationary Tray

Paper Size	Stacking Height	Number of sheets (reference)		
		64 - 80g/m ² Paper	81 - 90g/m ² Paper	91 - 105g/m ² Paper
A4, B5, LT, A5-R, ST-R, 8.5"SQ, 16K, Postcard, A4-TAB, LT-TAB, A6-R	36.75mm	250	225	190
A3, A4-R, B4, FOLIO, LD, LG, LT-R, COMPUTER, B5-R, 13"LG, 8K, 16K-R, A3 wide, 12" x 18", 13" x 19", 320 x 450mm, 320 x 460mm, Universal	18.4mm	125	112	95

The maximum stacking height is 18.4 mm for mixed size paper.

ÅgFullÅh status is defined as when the stationary tray paper-full sensor (S18) detected the full status of paper in the size available for feeding.

Movable tray (in the job offset stack mode)

Paper Size	Stacking Height	Number of sheets (reference)		
		80g/m ² Paper	90g/m ² Paper	105g/m ² Paper
A4, B5, LT, 8.5"SQ, 16K, A4-TAB, LT-TAB	350mm	3,000	2,700	2,300
A3, A4-R, B4, FOLIO, LD, LG, LT-R, COMPUTER, 13"LG, 8K, 16K-R, A3 wide, 12" x 18"	175mm	1,500	1,350	1,150
ST-R, A5-R, B5-R, A6-R, Postcard, Universal	-	500	500	500

The maximum stacking height is 175 mm for mixed size paper. However, ST-R, A5-R, B5-R, A6-R and non-standard sizes are not acceptable for mixed size paper.

ÅgFullÅh status is defined as when the number of paper whose maximum stacking height is 350 mm has reached 3,000 or when the number of paper in other sizes has reached 1,500.

The maximum number of sheets acceptable is 1,500 for mixed size paper. However, ST-R, A5-R, B5-R, A6-R and non-standard sizes are not acceptable for mixed size paper.

Movable tray (in the staple stack mode)

Paper Size	Stacking Height 64 - 105 g/m ² (reference)	
	Front/Rear Single Position Stapling	Two-Position Stapling
A4, B5, LT, A4-TAB, LT-TAB	A paper-full status is detected either when the number of stacks reaches 100 or when the number of sheets reaches 2,000.	A paper-full status is detected either when the number of stacks reaches 150 or when the number of sheets reaches 2,000.
A3, A4-R, B4, FOLIO, LD, LG, LT-R, COMPUTER, 13"LG, 8K, 16K, 8.5"SQ	A paper-full status is detected either when the number of stacks reaches 50 or when the number of sheets reaches 1,000.	A paper-full status is detected either when the number of stacks reaches 75 or when the number of sheets reaches 1,000.

- Stapling Position
Front single position

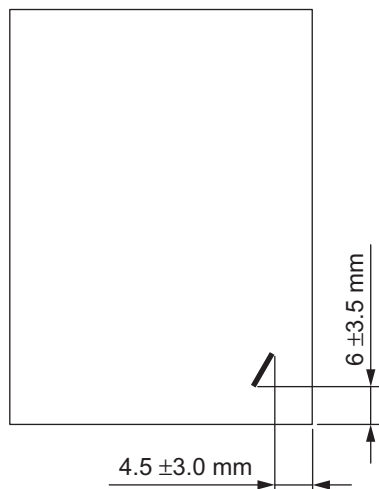


Fig. 1-1

- Rear single position

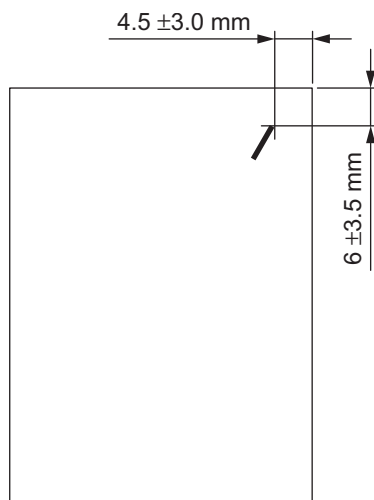


Fig. 1-2

- Two-Position Stapling

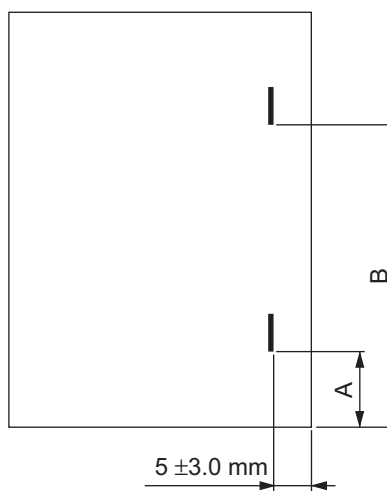


Fig. 1-3

Paper Size	A	B
A3, A4, A4-TAB	81.0 ±3.5mm	205.0 ±3.5mm
A4-R, FOLIO	37.5 ±3.5mm	161.5 ±3.5mm
B4, B5, COM-PUTER	61.0 ±3.5mm	185.0 ±3.5mm
LD, LT, LT-TAB	72.0 ±3.5mm	196.0 ±3.5mm
LT-R, LG	40.5 ±3.5mm	164.5 ±3.5mm

- Paper Size for stapling

Stapling Position	Paper Size
Front Single	A3, A4, A4-R, B4, B5, FOLIO, LD, LG, LT, LT-R, COMPUTER, 13"LG, 8.5"SQ, 8K, 16K, A4-TAB, LT-TAB
Rear Single	A3, A4, A4-R, B4, B5, FOLIO, LD, LG, LT, LT-R, COMPUTER, 13"LG, 8.5"SQ, 8K, 16K, A4-TAB, LT-TAB
Two-Positions	A3, A4, A4-R, B4, B5, FOLIO, LD, LG, LT, LT-R, COMPUTER, A4-TAB, LT-TAB

Stapling is not available for paper in sizes other than the above.

- Paper Basis Weight for stapling 64 - 105g/m²
- The number of Stapleable Sheet

Paper Size	64 - 80g/m ² Paper	81 - 90g/m ² Paper	91 - 105g/m ² Paper
A4, B5, LT, 8.5"SQ, 16K	50	50	30
A3, A4-R, B4, FOLIO, LD, LG, LT-R, COMPUTER, 13"LG, 8K	30	30	15

Maximum number of sheets acceptable for stapling:

A4, B5, LT, 8.5"SQ, 16K, A4-TAB, LT-TAB - 50 sheets

A3, A4-R, B4, FOLIO, LD, LG, LT-R, COMP, 13"LG, 8K - 30 sheets

* Two sheets of cover sheet (200-256 g/m²) can be included.

- Staple Loading exclusive cartridge (5,000 staples)
- Manual Stapling available

1.1.2 Saddle stitch section (MJ-1104)

- Binding method Center-binding only
- Paper Size A3, B4, A4-R, LD, LG, LT-R
- Number of sheets available for stapling

64 - 80g/m ² Paper	81 - 90g/m ² Paper	91 - 105g/m ² Paper
15	15	10

* One sheet of cover sheet (200-256 g/m²) can be included.

- Paper Basis Weight for stapling 64 - 105g/m²
- Staple Loading exclusive cartridge (2,000 staples)
- Exiting paper not folded Not available
- Exiting paper not stapled Exited when only one sheet in the stack is unstapled
- Stapling interval 120 mm
- Number of stacks available

No thick paper cover included

Paper Size	64 - 90g/m ² Paper	91 - 105g/m ² Paper
Under 5 sheets/books	50	40
Under 10 sheets/books	30	25
Under 155 sheets/books	25	-

Thick paper cover included

Paper Size	64 - 90g/m ² Paper	91 - 105g/m ² Paper
Under 5 sheets/books	50	30
Under 10 sheets/books	15	15
Under 155 sheets/books	10	-

A paper-full status is detected when the number of stacks reaches the values shown below.

Paper Size	No thick paper cover included	Thick paper cover included
Under 5 sheets/books	50	50
Under 10 sheets/books	30	15
Under 155 sheets/books	25	10

1.2 Accessory

	MJ-1103	MJ-1104
Unpacking Instruction	1set	1set
Movable tray	1pc	1pc
Connect rail plate	1pc	1pc
Connect rail	1pc	1pc
Connect plate	1pc	1pc
Joint plate	1pc	1pc
Position plate	1pc	1pc
Connector cover	1pc	1pc
Saddle tray	-	1pc
Slide tray	-	1pc
Leveling arm	-	1pc
Screw: TBID M4x8	6pcs	6pcs
Screw: TBID M4x12	4pcs	4pcs
Screw: M3x8	5pcs	5pcs
Screw: M3x12	-	2pcs
Screw: M3x6	-	2pcs
Harness clamp	1pc	1pc

1.3 Consumables

- Staple cartridge for the Finisher section
exclusive cartridge (STAPLE-2400: 5,000staples X 3 cartridges /box)
- Staple cartridge for the saddle stitch section (MJ-1104)
exclusive cartridge (STAPLE-3100: 2,000staples X 4 cartridges /box)

2. GENERAL DESCRIPTION

2.1 Main Components

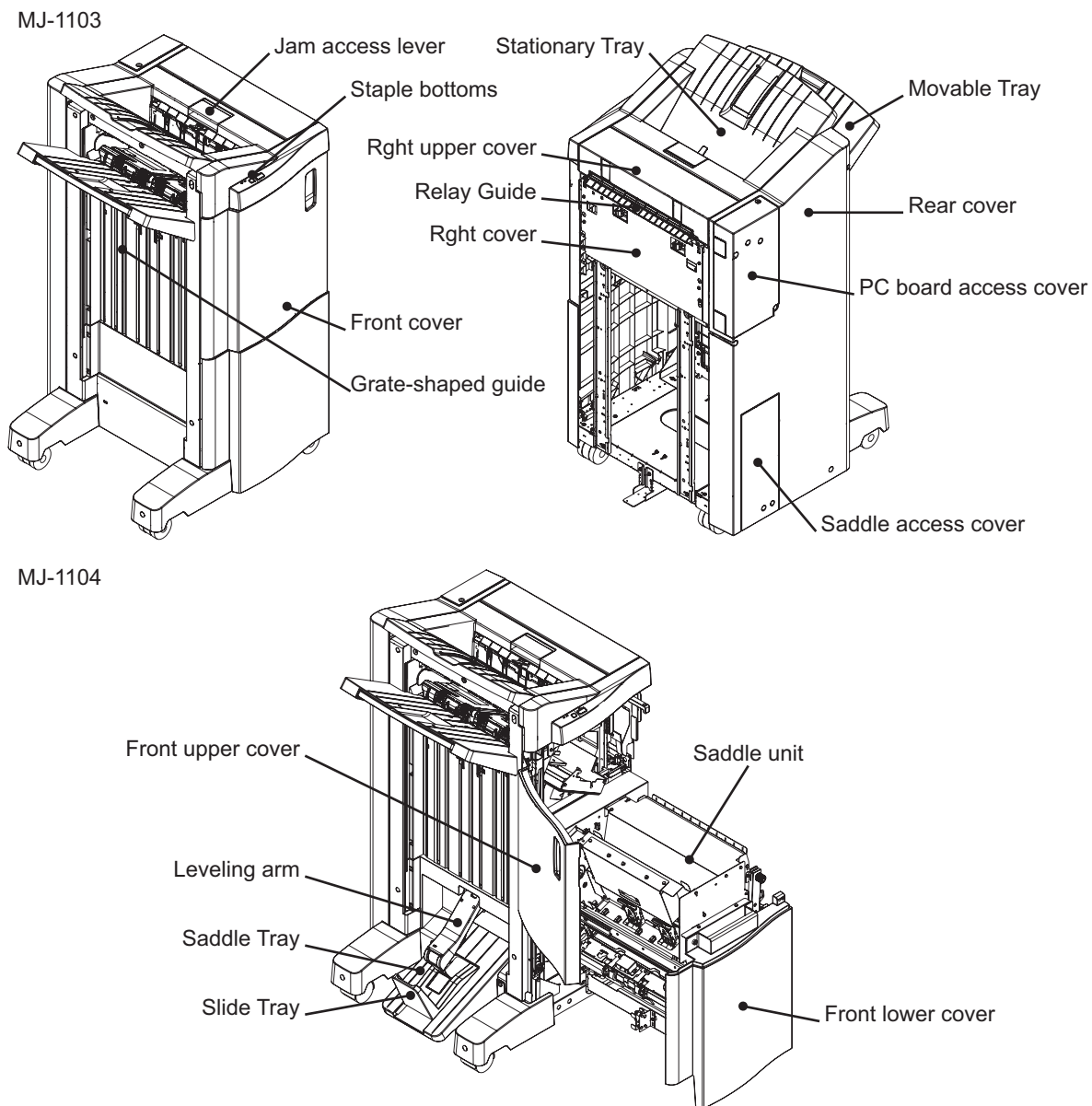


Fig. 2-1

2.2 Sectional View

[A] Units

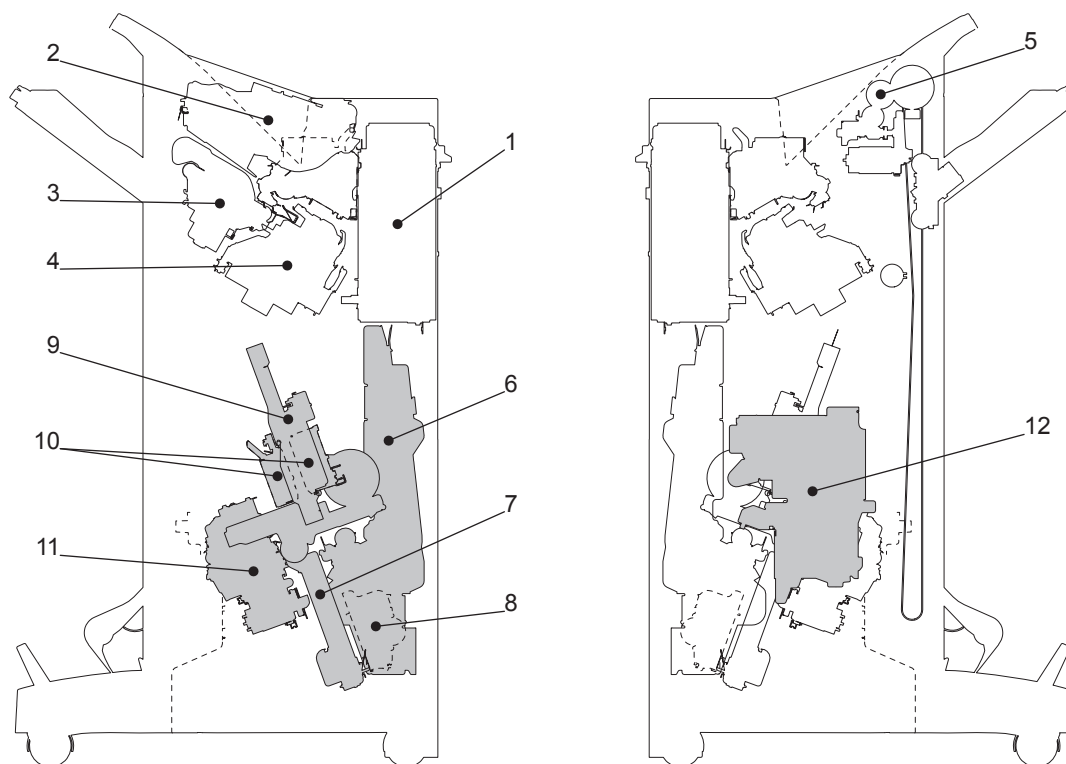


Fig. 2-2

1	Junction box unit
2	Buffer unit
3	Finishing tray unit
4	Stapler
5	Movable tray shift motor unit
6	Switchback unit
7	Stacker unit (MJ-1104)
8	Paper holding unit (MJ-1104)
9	Side alignment unit (MJ-1104)
10	Saddle stapler unit (MJ-1104)
11	Folding drive unit (MJ-1104)
12	EFS unit (MJ-1104)

[B] Finisher section

[B-1] Front side view

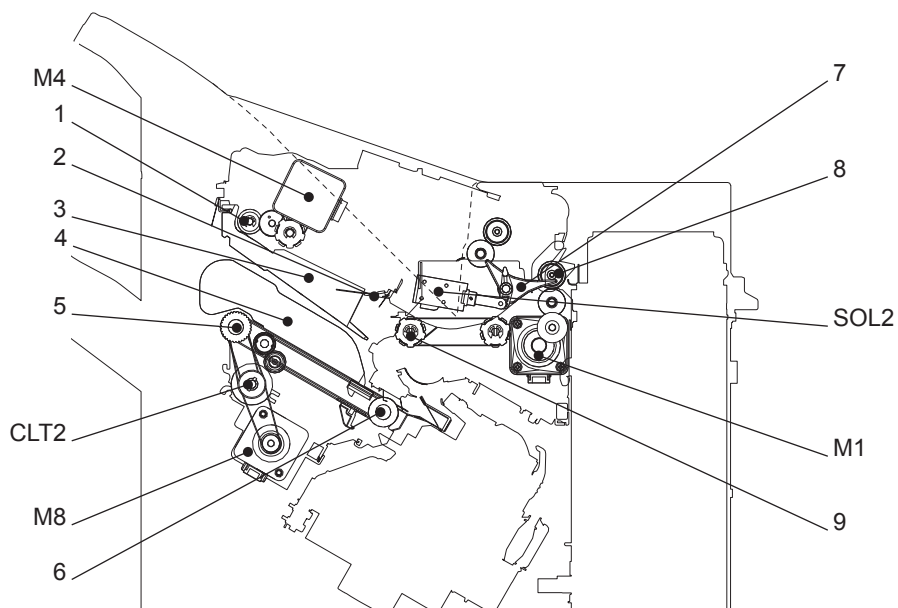


Fig. 2-3

1	Buffer roller
2	Paper pusher plate
3	Buffer tray
4	Finishing tray
5	Stack transport roller-2
6	Stack transport roller-1
7	Gate flap
8	Entrance roller
9	Exit roller
M1	Entrance motor
M4	Buffer roller drive motor
M8	Stack transport motor
CLT2	Paper exit guide clutch
SOL2	Gate solenoid

[B-2] Rear side view

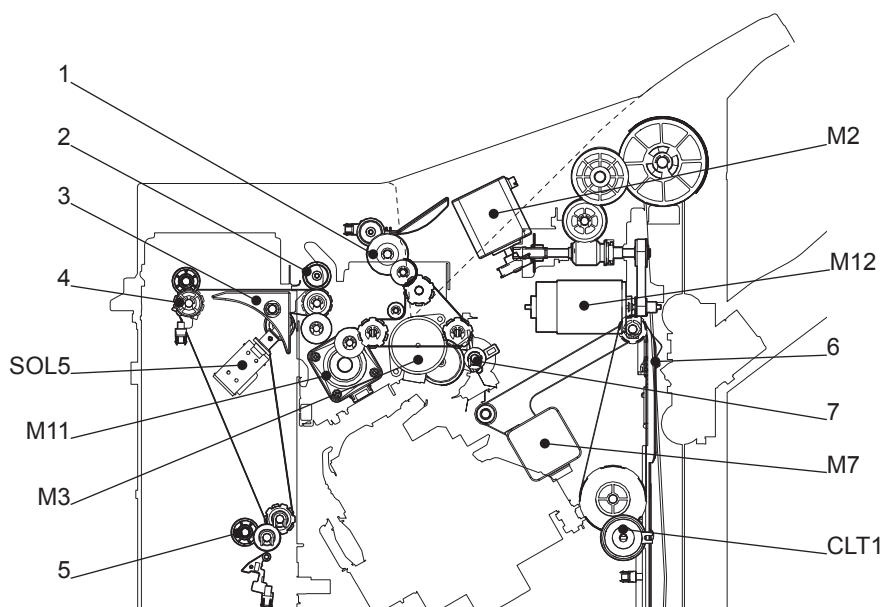


Fig. 2-4

1	Stationary tray roller
2	Entrance roller
3	Flapper
4	Feeding roller
5	Junction roller
6	Shutter
7	Paddle
M2	Buffer tray guide motor
M3	Paddle motor
M7	Transport motor
M11	Exit motor
M12	Movable tray shift motor
CLT1	Shutter clutch
SOL5	Transport path switching solenoid

[C] Saddle section

[C-1] Front side view

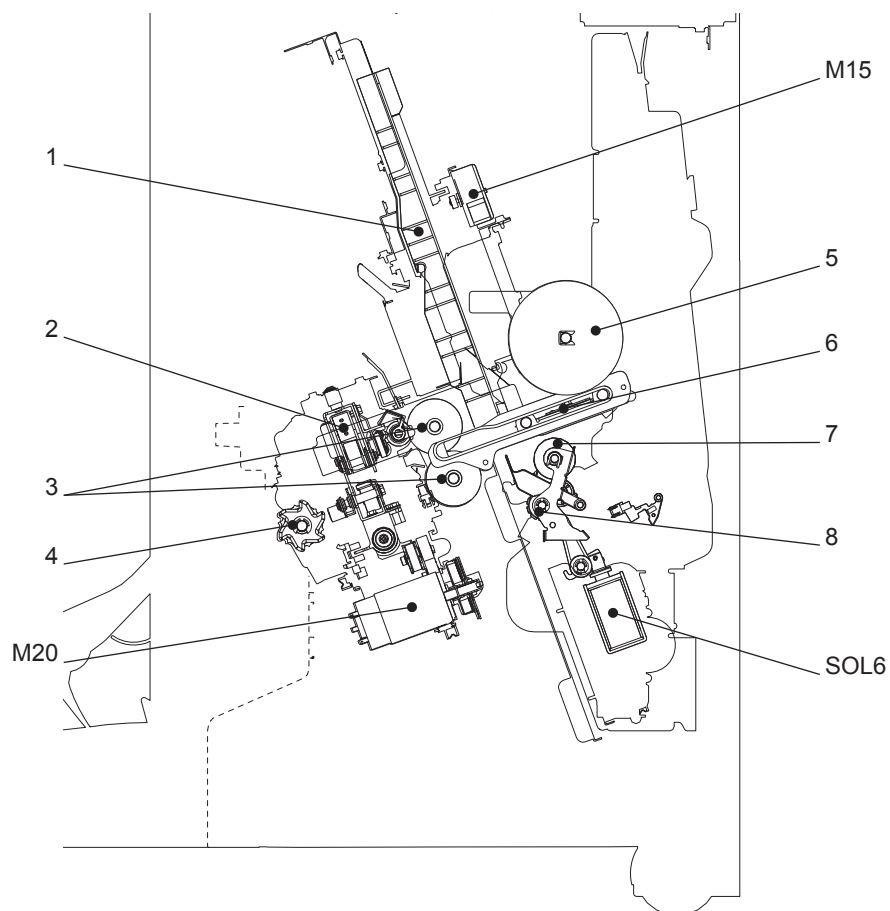


Fig. 2-5

1	Jog
2	Additional folding carrier
3	Folding roller
4	Saddle exit roller
5	Folding blade cam
6	Folding blade
7	Assisting roller
8	Ejecting roller
M15	Side alignment motor
M20	Additional folding motor
SOL6	Assisting roller solenoid

[C-2] Rear side view

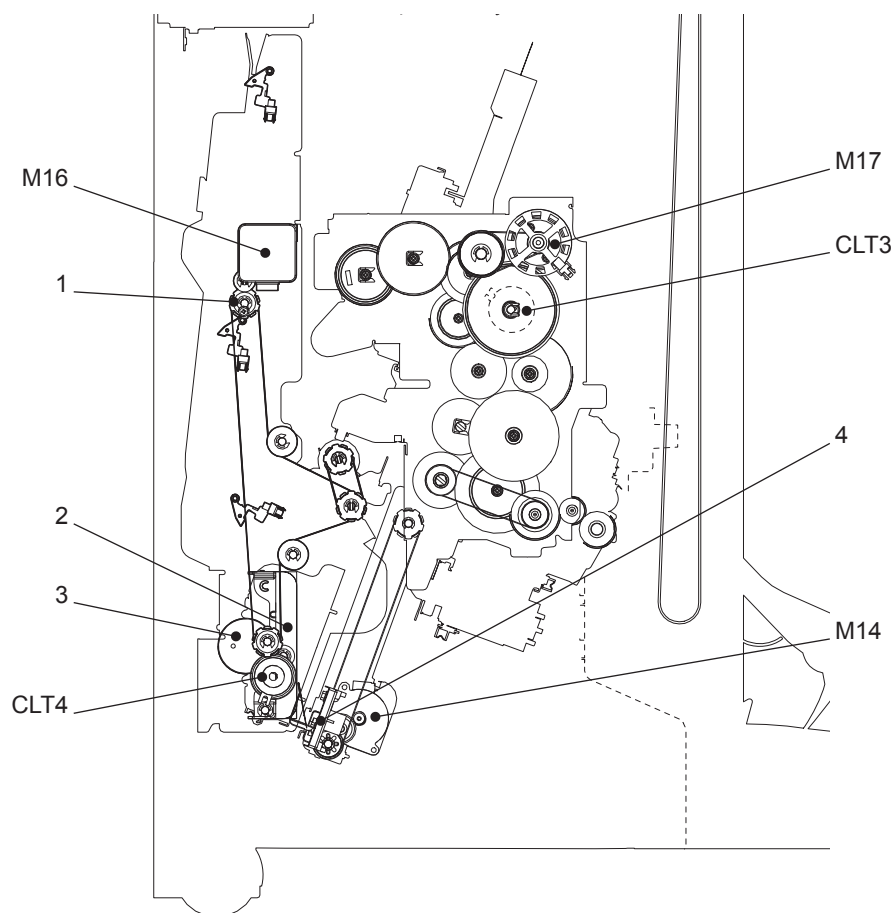


Fig. 2-6

1	Transport roller
2	Paper holding damper
3	Paper holding cam
4	Stacker carrier
M14	Stacker motor
M16	saddle transport motor
M17	Folding motor
CLT3	Folding blade clutch
CLT4	Paper holding clutch

2.3 Electric Parts Layout

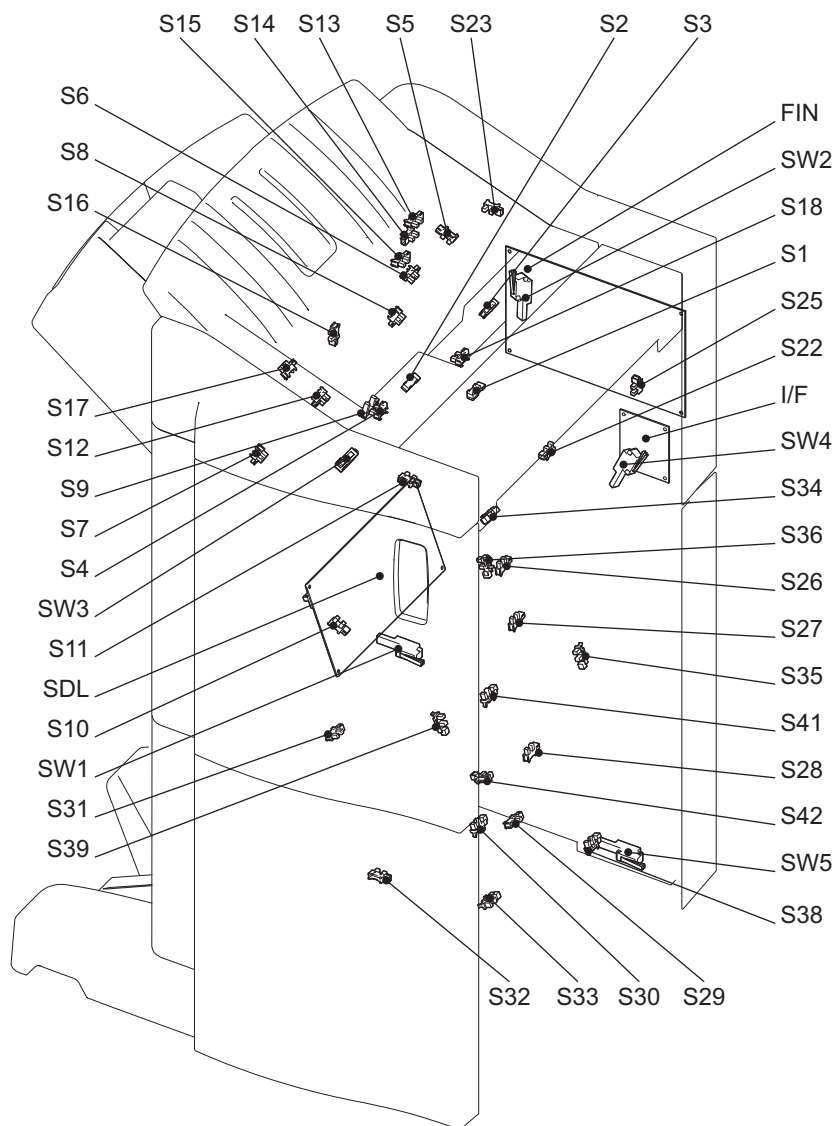


Fig. 2-7

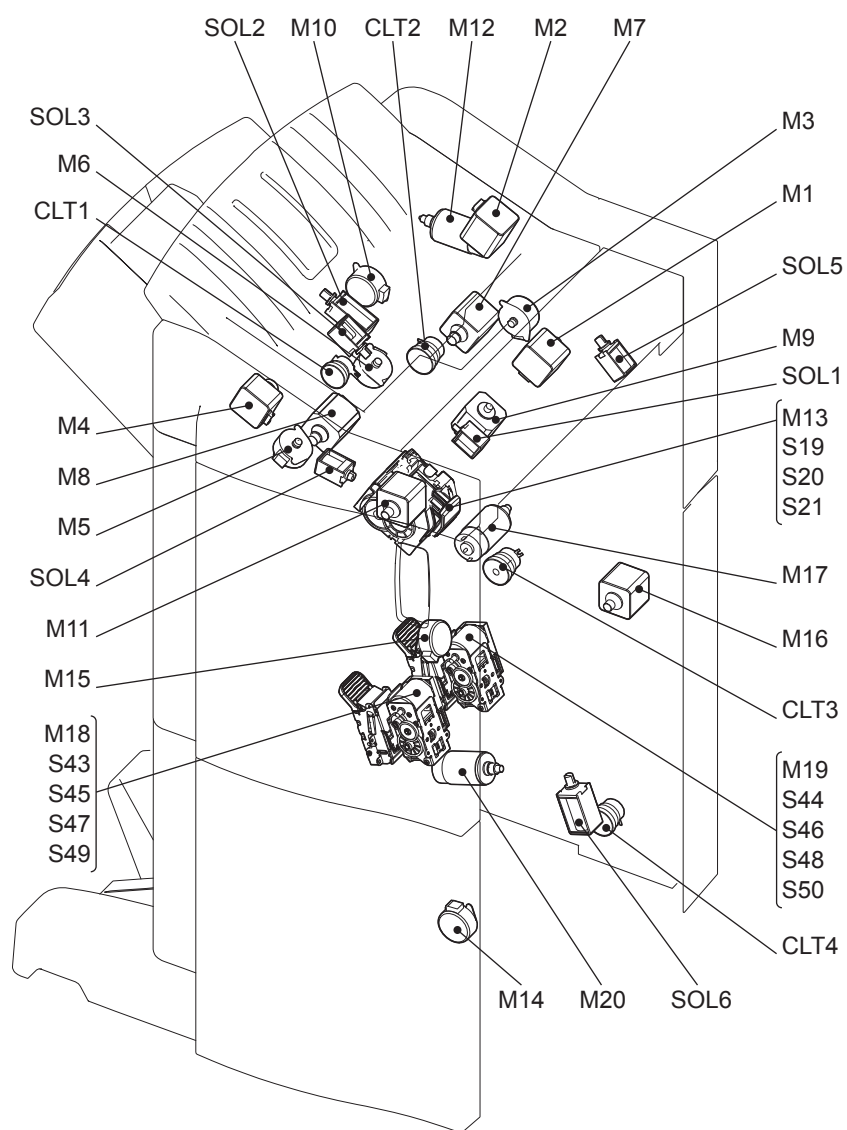


Fig. 2-8

2.4 Symbols and Functions of Various Components

The column <P-I> shows the page and item number in the parts list.

1. Motors (Finisher section : Common for MJ-1103/1104)

Symbol	Name	Function	P-I	Remarks
M1	Entrance motor	Transports paper from the junction box to the stationary tray or the exit roller by driving the entrance roller.	P5-I22	P.2-8 "Fig. 2-8"
M2	Buffer tray guide motor	Adjusts the width of the buffer tray guide.	P8-I30	P.2-8 "Fig. 2-8"
M3	Paddle motor	Drives the paddle.	P5-I7	P.2-8 "Fig. 2-8"
M4	Buffer roller drive motor	Drives the buffer roller.	P8-I24	P.2-8 "Fig. 2-8"
M5	Front alignment motor	Drives the front alignment plate.	P8-I6	P.2-8 "Fig. 2-8"
M6	Rear alignment motor	Drives the rear alignment plate.	P8-I6	P.2-8 "Fig. 2-8"
M7	Transport motor	Drives the roller of the finishing tray and drives the shutter.	P3-I13	P.2-8 "Fig. 2-8"
M8	Stack transport motor	Drives the eject arm and the belt exiting stacks of paper to the movable tray.	P8-I33	P.2-8 "Fig. 2-8"
M9	Stapler unit shift motor	Shifts the stapler unit right and left.	P11-I1	P.2-8 "Fig. 2-8"
M10	Assist arm motor	Drives the assist arm.	P8-I14	P.2-8 "Fig. 2-8"
M11	Exit motor	Transports paper from the entrance roller to the buffer tray by driving the exit roller.	P5-I22	P.2-8 "Fig. 2-8"
M12	Movable tray shift motor	Lifts up/down the movable tray.	P12-I25	P.2-8 "Fig. 2-8"
M13	Stapler motor	Operates the stapler.	P11-I20	P.2-8 "Fig. 2-8"

2. Motors (Saddle section: MJ-1104)

Symbol	Name	Function	P-I	Remarks
M14	Stacker motor	Lifts the stacker up or down to the paper stapling/folding position.	P20-I6	P.2-8 "Fig. 2-8"
M15	Side alignment motor	Opens or closes the alignment plate.	P23-I20	P.2-8 "Fig. 2-8"
M16	Saddle transport motor	Transports paper from the paper feeding gate to the stacker.	P26-I29	P.2-8 "Fig. 2-8"
M17	Folding motor	Folds paper by driving a folding blade and exits the folded paper.	P19-I24	P.2-8 "Fig. 2-8"
M18	Front stapler motor	Operates the front stapler.	P22-I5	P.2-8 "Fig. 2-8"
M19	Rear stapler motor	Operates the rear stapler.	P22-I5	P.2-8 "Fig. 2-8"
M20	Additional folding motor	Adds another fold on paper already folded.	P24-I4	P.2-8 "Fig. 2-8"

3. Electromagnetic spring clutches (Finisher section : Common for MJ-1103/1104)

Symbol	Name	Function	P-I	Remarks
CLT1	Shutter clutch	Transmits the drive of the transport motor to the shutter opening/closing section.	P3-I27	P.2-8 "Fig. 2-8"
CLT2	Paper exit guide clutch	Transmits the stack transport motor drive to the paper exit guide.	P10-I26	P.2-8 "Fig. 2-8"

4. Electromagnetic spring clutches (Saddle section: MJ-1104)

Symbol	Name	Function	P-I	Remarks
CLT3	Folding blade clutch	Transmits the drive of the folding motor to the folding blade.	P19-I19	P.2-8 "Fig. 2-8"
CLT4	Paper holding clutch	Transmits the drive of the saddle transport motor to the paper holding cam.	P21-I22	P.2-8 "Fig. 2-8"

5. Solenoids (Finisher section : Common for MJ-1103/1104)

Symbol	Name	Function	P-I	Remarks
SOL1	Catching solenoid	Catches paper on the buffer tray.	P5-I4	P.2-8 "Fig. 2-8"
SOL2	Buffer roller lift solenoid	Moves up/down the buffer roller (Turned ON to lift up the roller).	P8-I6	P.2-8 "Fig. 2-8"
SOL3	Patting solenoid	Drops paper on the buffer tray to the finisher tray.	P8-I5	P.2-8 "Fig. 2-8"
SOL4	Gate solenoid	Switches paper transport destination (stationary tray / movable tray).	P7-I29	P.2-8 "Fig. 2-8"

6. Solenoids (Saddle section: MJ-1104)

Symbol	Name	Function	P-I	Remarks
SOL5	Transport path switching solenoid	Switches destinations where paper is to be transported (Finisher section or saddle stitch section).	P16-I23	P.2-8 "Fig. 2-8"
SOL6	Assisting roller solenoid	Operates the assisting roller.	P27-I14	P.2-8 "Fig. 2-8"

7. Sensors and switches (Finisher section : Common for MJ-1103/1104)

Symbol	Name	Function	P-I	Remarks
S1	Entrance sensor	Detects paper transported from the junction box.	P7-I23	P.2-7 "Fig. 2-7"
S2	Transport sensor	Detects the paper transported to the entrance of the buffer tray.	P7-I23	P.2-7 "Fig. 2-7"
S3	Paddle home position sensor	Detects the home position of the paddle.	P5-I19	P.2-7 "Fig. 2-7"
S4	Shutter opening/closing sensor	Detects the home position of the shutter.	P5-I19	P.2-7 "Fig. 2-7"
S5	Buffer tray home position sensor	Detects that the buffer tray is at the outermost position.	P8-I20	P.2-7 "Fig. 2-7"
S6	Paper holder home position sensor	Detects the home position of the paper holder cam.	P8-I20	P.2-7 "Fig. 2-7"
S7	Front alignment plate home position sensor	Detects the home position of the front alignment plate.	P10-I17	P.2-7 "Fig. 2-7"
S8	Rear alignment plate home position sensor	Detects the home position of the rear alignment plate.	P10-I17	P.2-7 "Fig. 2-7"
S9	Stack exit belt home position sensor	Detects the home position of the stack exit belt.	P10-I52	P.2-7 "Fig. 2-7"
S10	Stapler unit home position sensor	Detects if the stapler unit is at the front side (home position).	P11-I24	P.2-7 "Fig. 2-7"
S11	Stapler interference sensor	Detects when the stapler unit interferes with other mechanical section.	P11-I24	P.2-7 "Fig. 2-7"
S12	Finishing tray paper detection sensor	Detects the presence/absence of the paper on the finishing tray.	P10-I17	P.2-7 "Fig. 2-7"
S13	Movable tray position-A sensor	Detects the movable tray position.	P4-I15	P.2-7 "Fig. 2-7"
S14	Movable tray position-B sensor	Detects the movable tray position.	P4-I15	P.2-7 "Fig. 2-7"
S15	Movable tray position-C sensor	Detects the movable tray position.	P4-I15	P.2-7 "Fig. 2-7"
S16	Movable tray paper-full sensor	Detects the upper surface of paper set on the movable tray.	P4-I15	P.2-7 "Fig. 2-7"
S17	Movable tray paper exist sensor	Detects the presence/absence of the paper on the movable tray.	P4-I15	P.2-7 "Fig. 2-7"
S18	Stationary tray paper-full sensor	Detects the paper-full state of the stationary tray.	P12-I2	P.2-7 "Fig. 2-7"
S19	Stapler home position sensor	Detects the home position in the stapler for the stapling operation.	P11-I20	P.2-7 "Fig. 2-7"
S20	Staple top position sensor	Detects the staple top position in the stapler.	P11-I20	P.2-7 "Fig. 2-7"
S21	Staple empty sensor	Detects the empty status of staples in the stapler cartridge.	P11-I20	P.2-7 "Fig. 2-7"
S22	Feeding sensor	Detects paper transported from the main unit into the junction box.	P15-I14/ P16-I8	P.2-7 "Fig. 2-7"
S23	Movable tray shift motor sensor	Detects the rotation of the movable tray shift motor.	P12-I2	P.2-7 "Fig. 2-7"
S25	Connection sensor	Detects that the Finisher is released from the main unit.	P13-I28	P.2-7 "Fig. 2-7"
SW1	Front cover switch	Cuts off the drive current (+24V) when the opening status of the front cover is detected.	P15-I19/ P16-I41	P.2-7 "Fig. 2-7"
SW2	Stationary tray opening/closing switch	Detects the opening (lifting) of the stationary tray.	-	P.2-7 "Fig. 2-7"
SW3	Stapler interference switch	Automatically cut off the power supply to the stapler on detecting the no-operation area for the stapler unit.	-	P.2-7 "Fig. 2-7"
SW4	Connection switch	Cuts off drive current (24V) when it detects that the Finisher is released from the main unit.	P13-I3	P.2-7 "Fig. 2-7"

8. Sensors and switches (Saddle section: MJ-1104)

Symbol	Name	Function	P-I	Remarks
S26	Junction box paper detection sensor	Detects the presence of paper within the junction box.	P16-I8	P.2-7 "Fig. 2-7"
S27	Transport path-2 sensor	Detects the paper transported to the switch back Unit.	P28-I2	P.2-7 "Fig. 2-7"
S28	Transport path-3 sensor	Detects the paper transported to the switch back Unit.	P28-I2	P.2-7 "Fig. 2-7"
S29	Ejecting roller sensor	Detects the rotation of the assisting roller.	P27-I10	P.2-7 "Fig. 2-7"
S30	Stacker paper detection sensor	Detects the presence/absence of the paper in the stacker.	P27-I21	P.2-7 "Fig. 2-7"
S31	Exit sensor	Detects paper exit from the EFS Unit.	P24-I7	P.2-7 "Fig. 2-7"
S32	Saddle tray paper detection sensor	Detects the presence/absence of the paper on the saddle tray.	P18-I8	P.2-7 "Fig. 2-7"
S33	Stacker home position sensor	Detects the home position of the stacker.	P20-I4	P.2-7 "Fig. 2-7"
S34	Folding motor encoder sensor	Detects the rotation of the Folding motor.	P19-I26	P.2-7 "Fig. 2-7"
S35	Folding blade home position sensor	Detects the home position of the folding blade.	P19-I26	P.2-7 "Fig. 2-7"
S36	Side alignment home position sensor	Detects the home position of the side alignment plate.	P23-I3	P.2-7 "Fig. 2-7"
S38	Paper holding home position sensor	Detects the home position of the paper holding unit.	P21-I20	P.2-7 "Fig. 2-7"
S39	Additional folding home position sensor	Detects the home position of the Additional folding roller.	P24-I7	P.2-7 "Fig. 2-7"
S41	Exit transport sensor	Detects the stop position of the Additional folding.	P24-I7	P.2-7 "Fig. 2-7"
S42	Additional folding motor encoder sensor	Detects the rotation of the Additional folding motor..	P24-I7	P.2-7 "Fig. 2-7"
S43	Front saddle stapler home position sensor	Detects the home position in the front stapler for the stapling operation.	P22-I5	P.2-7 "Fig. 2-7"
S44	Rear saddle stapler home position sensor	Detects the home position in the rear stapler for the stapling operation	P22-I5	P.2-7 "Fig. 2-7"
S45	Front saddle staple empty sensor	Detects the empty status of front staples in the stapler cartridge.	P22-I5	P.2-7 "Fig. 2-7"
S46	Rear saddle staple empty sensor	Detects the empty status of rear staples in the stapler cartridge.	P22-I5	P.2-7 "Fig. 2-7"
S47	Front saddle staple top position sensor	Detects the staple top position in the front stapler.	P22-I5	P.2-7 "Fig. 2-7"
S48	Rear saddle staple top position sensor	Detects the staple top position in the rear stapler.	P22-I5	P.2-7 "Fig. 2-7"
S49	Front saddle stapler cartridge sensor	Detects the presence/absence of the stapler cartridge in the front stapler.	P22-I5	P.2-7 "Fig. 2-7"
S50	Rear saddle stapler cartridge sensor	Detects the presence/absence of the stapler cartridge in the rear stapler.	P22-I5	P.2-7 "Fig. 2-7"
SW5	Saddle unit opening/closing switch	Cuts off drive current (24V) when it detects that the saddle unit is opened.	P17-I10	P.2-7 "Fig. 2-7"

9. PC board (Finisher section : Common for MJ-1103/1104)

Symbol	Name	Function	P-I	Remarks
FIN	Finisher control PC board (FIN board)	Controls the Finisher	P3-I37	P.2-7 "Fig. 2-7"
I/F	Interface PC board (I/F board)	Transmits signals among the punch control PC board, finisher control PC board and saddle control PC board.	P13-I5	P.2-7 "Fig. 2-7"

10. PC board (Saddle section: MJ-1104)

Symbol	Name	Function	P-I	Remarks
SDL	Saddle control PC board (SDL board)	Controls the Saddle Stitch Finisher.	P18-I58	P.2-7 "Fig. 2-7"

2.5 Diagram of Signal Blocks

[A] Finisher section

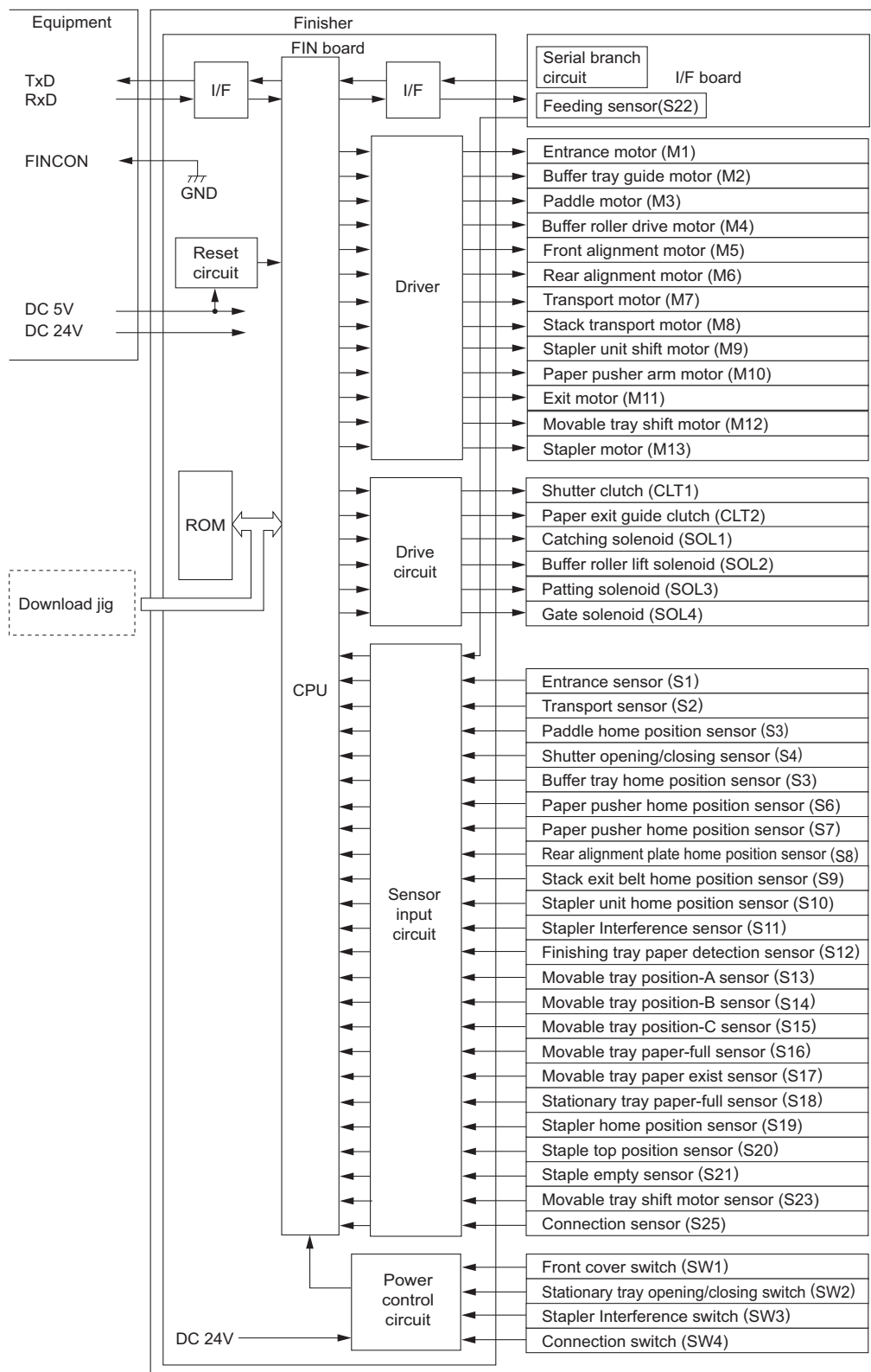


Fig. 2-9

[B] Saddle section

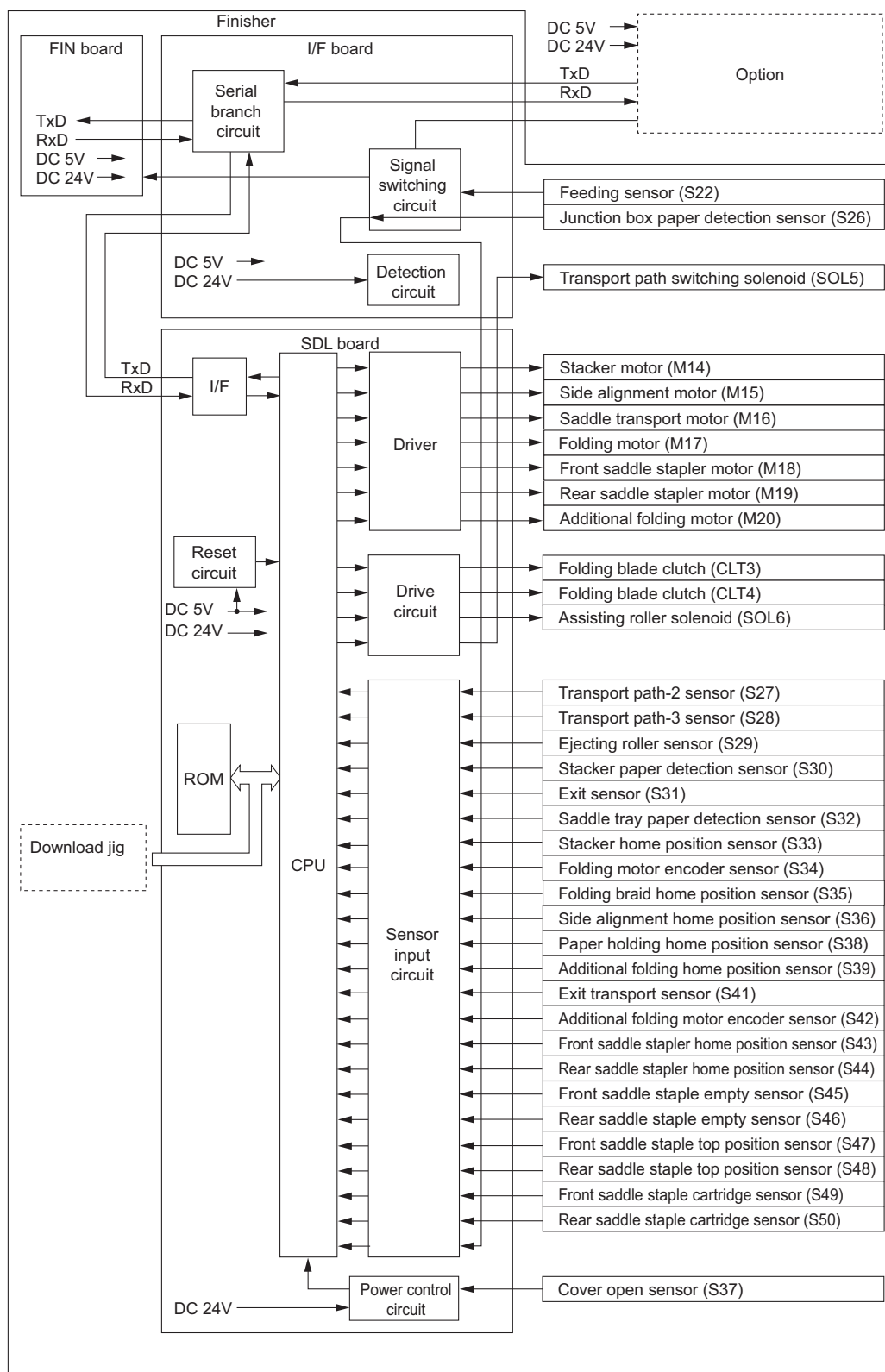


Fig. 2-10

2.6 Description of Interface Signals

The 2 lines; TxD and RxD are used to transmit/receive signals between the equipment and the Finisher. When the Finisher is connected, the equipment detects the power supply signal (MFP-24V-ON) and confirms that the Finisher is connected to it with the status of the connection switch (SW4) and an MFP-CONNECT-SEN signal from the connection sensor (S25).

TXD:	Sent data (transmitted from the Equipment to the Finisher)
RXD:	Received data (transmitted from the Finisher to the Equipment)
MFP-24-V-ON:	Equipment 24V power supply signal (Low level - 24V power supplied)
MFP-CONNECT:	Equipment connection switch (Connected - 24V power supplied)
MFP-CONNECT-SEN:	Equipment connection confirmation signal (Low level - Connected to the equipment)

Data communication (RxD and TxD) between the equipment and the Finisher has adopted the serial communication system which does not allow checking whether the signals are transmitted/ received properly using testing devices in the field.

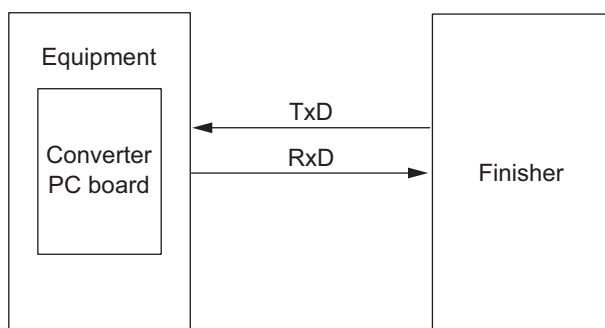


Fig. 2-11

3. DESCRIPTION OF OPERATIONS

3.1 Basic Operations

3.1.1 GENERAL DESCRIPTION

This machine receives paper transported from the connected device with its junction box, and then transports the paper to the stationary tray or the movable tray of the Finisher section or the saddle tray of the saddle stitch section.

Stack modes available in the Finisher section are; the simple stack mode which directly exits paper to the stationary tray or the movable tray, the job offset stack mode which exits stacks of paper by slightly shifting them to the front and rear alternately, and the staple stack mode which staples and exits stacks of paper.

In the job offset stack mode and the staple stack mode, stacks of paper are exited to the movable tray. A stack mode available in the saddle stitch section is the center-binding mode which binds a stack of paper at its center by stapling at two positions and then folds in half again to exit it to the saddle tray.

- Simple stack mode
 - When the non-sort mode is set, paper exits in the procedure shown below.
 - A Paper is output to the stationary tray.
 - B Paper is output to the movable tray via the buffer tray.

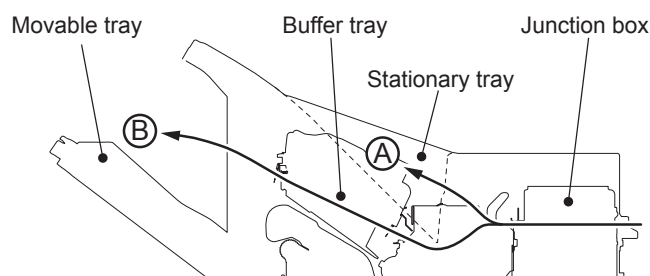


Fig. 3-1

- Bundle job offset mode/ stapling stack mode
 - When the sort copying and the stapling function are set, paper exits in the procedure shown below.
 - 1 Paper is transported to the buffer tray.
 - 2 Paper is dropped from the buffer tray onto the finishing tray.
 - 3 Paper stuck on the finishing tray is aligned and stapled, and then the bundled paper is output to the movable tray.

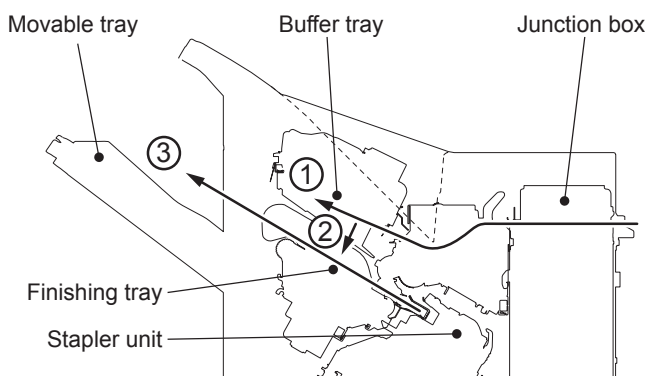


Fig. 3-2

- Center-binding mode

Paper is exited following the procedure below when the Saddle Stitch Finisher is installed.

- 1 The stacker is moved to the stapling position according to the detected paper size.
- 2 Paper is transported to the stacker and then side alignment operation is performed.
- 3 The stack of paper is stapled after the alignment for the last page is finished.
- 4 The stacker is moved to the paper folding position to fold the paper.
- 5 The paper is transported to the additional folding position to be folded again.
- 6 The paper is exited to the saddle tray.

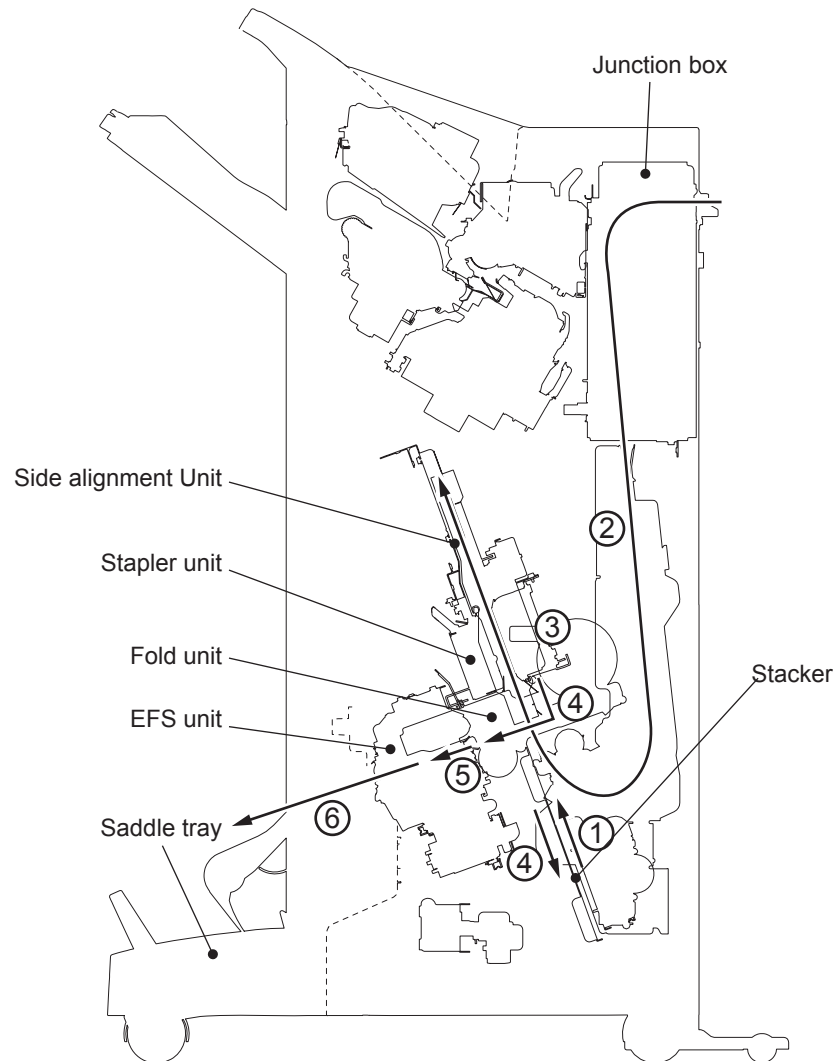


Fig. 3-3

3.1.2 Junction Box

Paper transported from the connected device is then detected by the feeding sensor (S22) and caught with the feeding roller. Then it is transported to the Finisher section or the saddle stitch section after the transport path switching solenoid (SOL5) switches its transport path with a flapper.

When it is transported to the Finisher section, the flapper does not move but the entrance roller transports it to the Finisher section.

When it is transported to the saddle stitch section, the transport path switching solenoid (SOL5) is turned ON to switch the transport path with the flapper. The paper is then transported to the saddle stitch section with the junction roller. The junction box paper detection sensor (S26) detects the passing of the paper.

The feeding roller and the junction roller are driven by the entrance motor (M1) of the Finisher section.

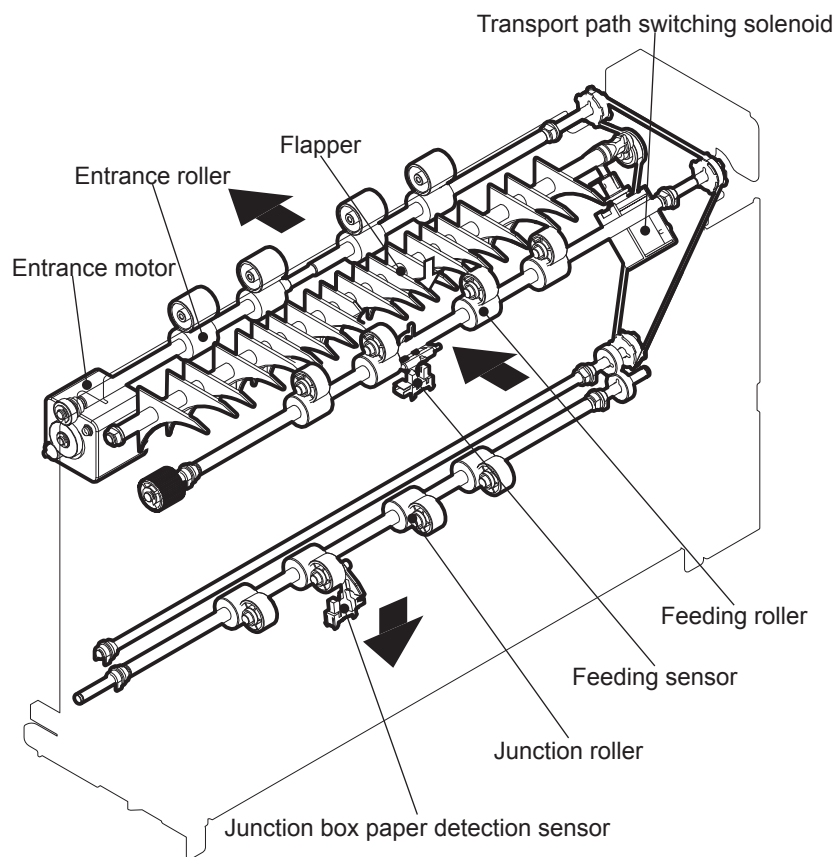


Fig. 3-4

3.1.3 Simple Stack Mode

In this mode the transported paper is exited to the stationary tray or the movable tray directly, without any extra operation.

During the exiting process to the movable tray, the shutter is lifted not to bring the paper into the finishing tray side and the movable tray is lifted up and down according to the stack height of paper.

[A] Finisher paper feeding section

Paper transported from the junction box is then caught with the entrance roller driven by the entrance motor (M1).

When paper is exited to the stationary tray, the gate solenoid (SOL4) is turned ON to move down the gate flapper. When exited to the movable tray, the gate solenoid (SOL4) is turned OFF to transport the paper to the buffer tray.

The paper transport is detected by the entrance sensor (S1).

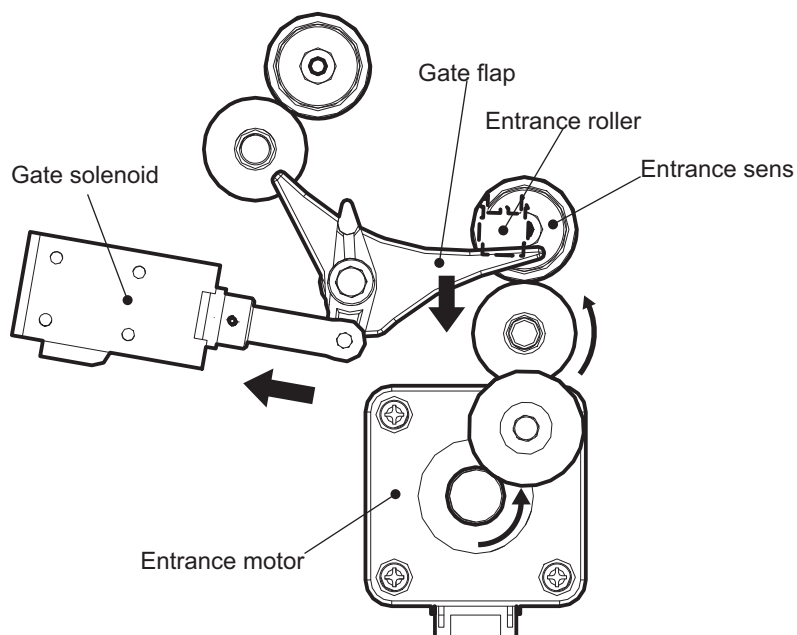


Fig. 3-5

[B] Paper exit to the stationary tray

Paper transported from the Finisher feeding section to the stationary tray side is exited to the stationary tray with the stationary tray roller driven by the exit motor (M11).

The entrance sensor (S1) detects the paper transport to the stationary tray.

The stationary tray paper-full sensor (S18) detects the overload of paper on the stationary tray.

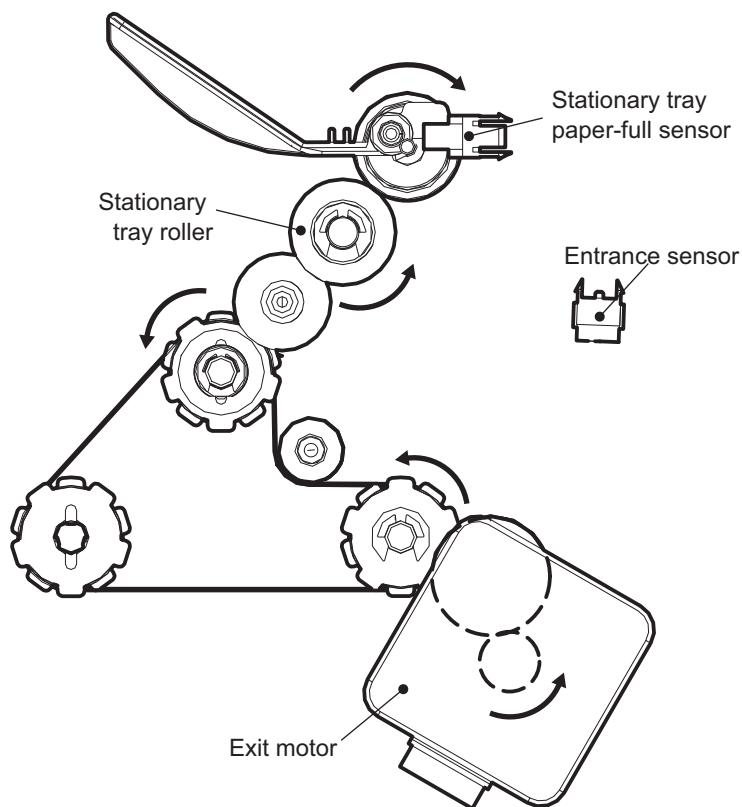


Fig. 3-6

[C] Paper exit to the movable tray

Paper transported from the Finisher feeding section to the movable tray side is transported to the buffer tray with the exit roller driven by the exit motor (M11).

Paper transport is detected by the transport sensor (S2).

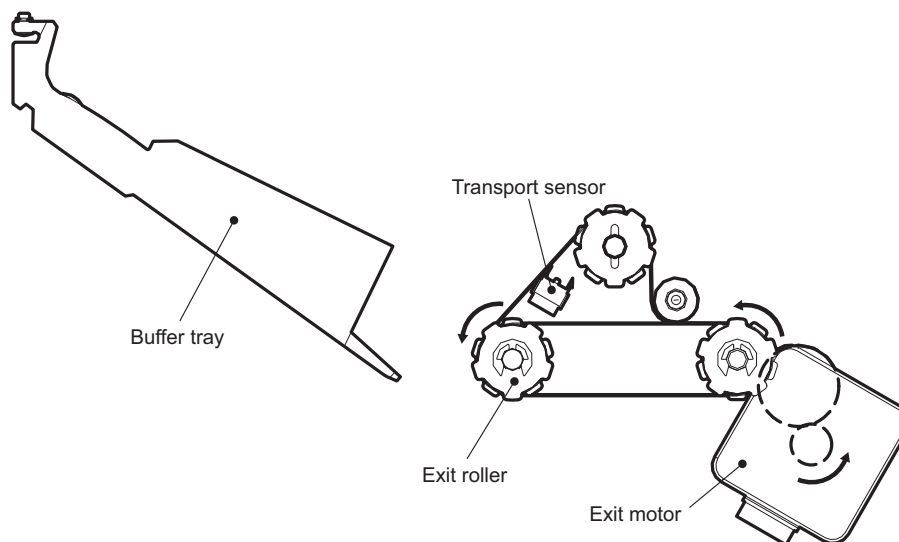


Fig. 3-7

The paper transported to the buffer tray it then exited to the movable tray by the buffer rollers driven by the buffer roller drive motor (M4).

At this stage, the shutter clutch (CLT1) is turned ON and the shutter is pulled up by the drive of the transport motor (M7) to prevent the paper from being transported to the finishing tray.

The opening and closing statuses of the shutter is detected by the shutter opening/closing sensor (S4).

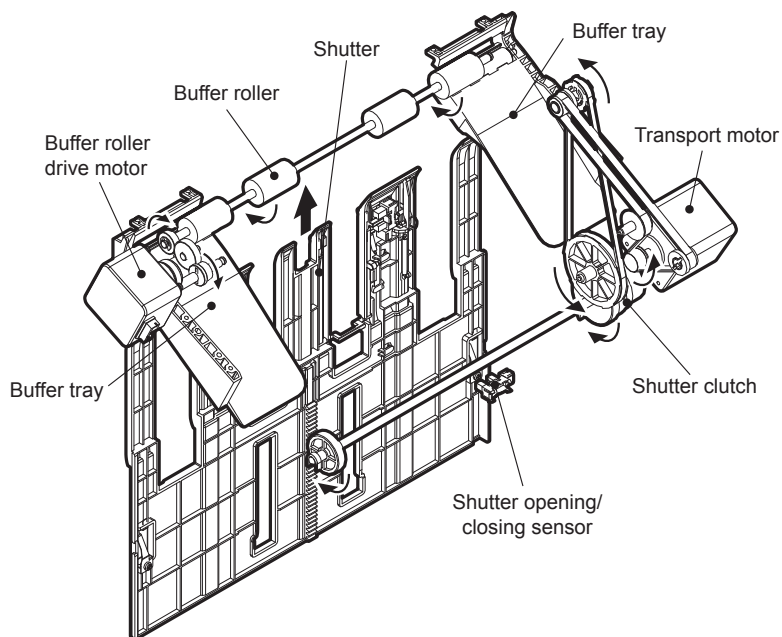


Fig. 3-8

[D] Operation of Movable Tray

The movable tray is shifted up and down by the drive from the movable tray shift motor (M12) according to the paper exit from the buffer tray or finishing tray, and the amount of the paper stack. Rotation of the movable tray shift motor is detected by the movable tray shift motor sensor (S23). Whether paper is set on the movable tray or not is detected by the movable tray paper sensor (S17).

Detecting the position of the movable tray is performed as follows.

1. Home position of the movable tray when the paper is output from the buffer tray
The movable tray is shifted up during initializing until the movable tray paper-full sensor (S16) is turned ON. After that, the tray is moved down for a specified period of time and it is stopped where the movable tray position-A sensor (S13) is turned ON. This will be the home position.
2. Home position of the movable tray when the paper is output from the finishing tray
The movable tray is shifted down from the home position when the paper is output from the buffer tray, and the tray is stopped where the movable tray position-C sensor (S15) is turned ON. This will be the home position.
3. Position of the movable tray when the paper loading capacity is 1,500 to 3,000 sheets
If the movable tray paper-full sensor (S16) is turned ON when the movable tray is in either the home position when the paper is output from the buffer tray or the home position when the paper is output from the finishing tray, it goes down to the position where the movable tray position-B sensor (S14) is turned ON. This is the position of the movable tray when the paper loading capacity is 1,500 to 3,000 sheets.
4. Position of the movable tray when the paper loading capacity is 3,000 sheets or more
When the movable tray is in the position of the paper loading capacity of 1,500 to 3,000 sheets, and the movable tray paper-full sensor (S16) is turned ON, the tray is shifted to the position where the movable tray position-A sensor (S13) is turned OFF. This is the position of the movable tray when the paper loading capacity is 3,000 or more.

Movable tray position	Movable tray position A sensor (S13)	Movable tray position B sensor (S14)	Movable tray position C sensor (S15)
(1)	ON	OFF	OFF
(2)	ON	OFF	ON
(3)	ON	ON	ON
(4)	ON	ON	OFF

- * ON: The sensor signal is interrupted by the rib of the sensor rail.
OFF: The sensor signal is not interrupted by the rib of the sensor rail.

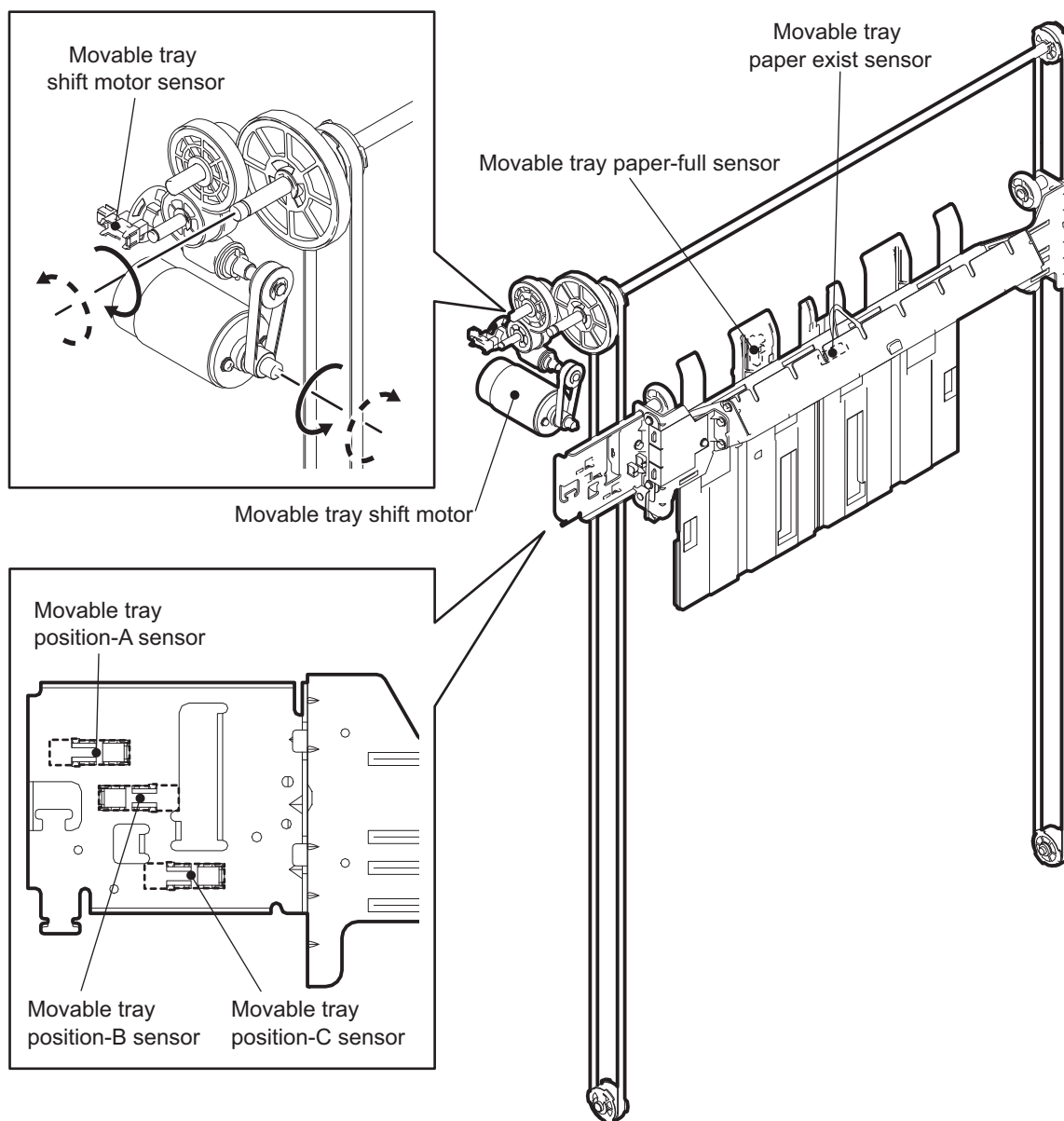


Fig. 3-9

3.1.4 Job offset stack mode / Staple stack mode

The job offset stack mode exits stacks of paper by slightly shifting them to the front and rear alternately, and the staple stack mode staples and exits stacks of paper. In both modes, paper transported from the feeding section is stacked on the buffer tray in the unit of 1 to 3 sheets.

The stacked paper is then moved to the finishing tray by the active drop mechanism. On the finishing tray the alignment of the stacks of paper and the job offsetting are performed.

In case a stack mode shifts to the staple stack mode after this, the stack of paper is stapled and exited to the movable tray.

[A] Paper transport section

At this stage, the buffer roller lift solenoid (SOL2) is turned ON to raise the buffer rollers and the buffer tray is moved by the buffer tray guide motor (M2) to the position where it matches with the paper width. The home position of the buffer tray is detected by the buffer tray home position sensor (S5).

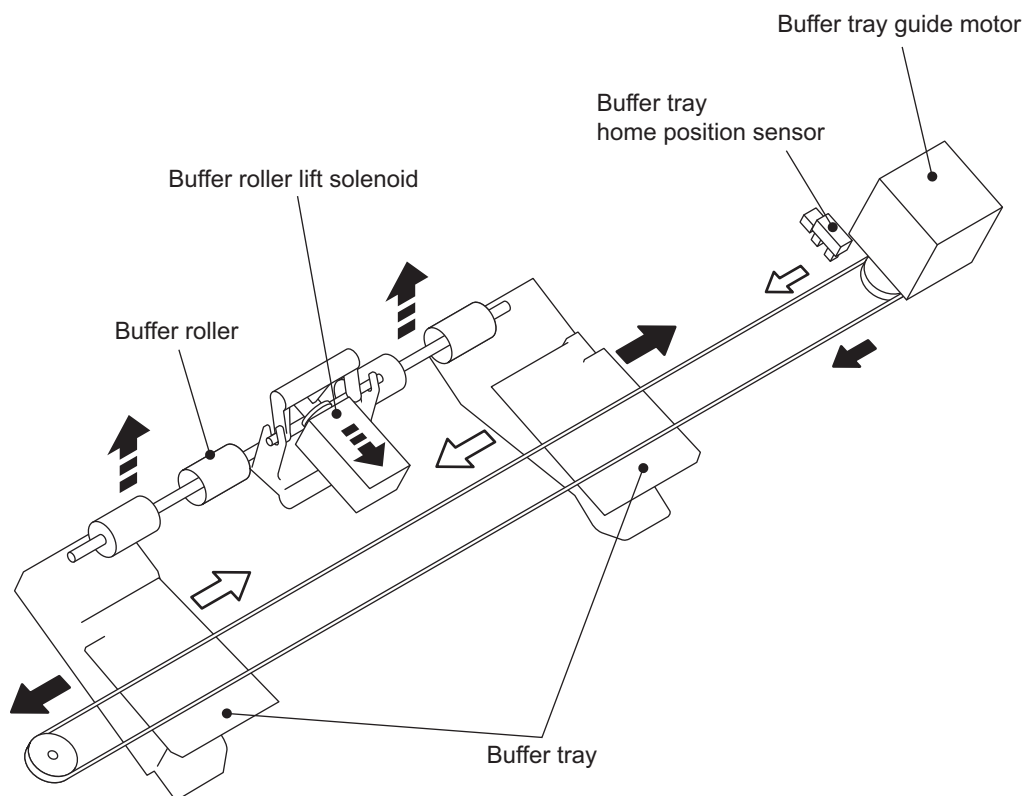


Fig. 3-10

[B] Mulch-active drop mechanism section

The paper transported to the buffer tray is then moved to the finishing tray by the mulch-active drop mechanism to be aligned or stapled.

- (1) The paper on the buffer tray is pulled into the finishing tray side by the reverse rotation of the buffer roller drive motor (M4).
In this step the paper pushing arm motor (M10) holds the trailing edge of the paper with the paper pushing plate.
Then the catching solenoid (SOL1) is turned ON to rotate the catching pad, and the catching pad thus catches the paper with the paddle guides.

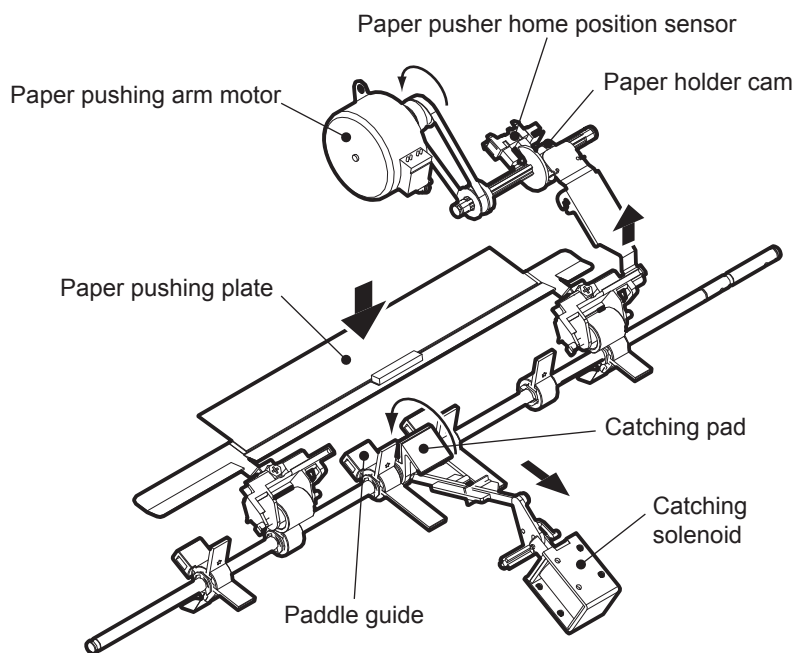


Fig. 3-11

- (2) When the buffer roller lift solenoid (SOL2) is turned ON, the buffer rollers are lifted up, and then the buffer tray guide motor (M2) opens the buffer tray. The paper on the buffer tray is thus dropped onto the finishing tray. At this stage, the patting solenoid (SOL3) is turned ON to drop the paper tapping arm so that the paper will certainly be dropped onto the finishing tray.

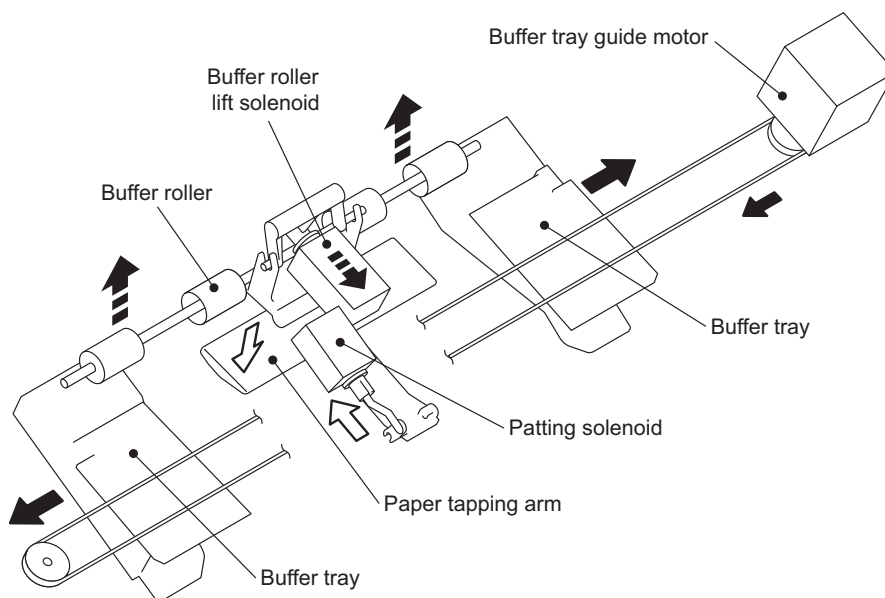


Fig. 3-12

- (3) The paper dropped onto the finishing tray is then pulled into the finishing position by the paddles driven by the paddle motor (M8) and the stack transport rollers-1 and -2 driven by the transport motor (M7). The finishing tray paper detection sensor (S12) detects whether paper is on the finishing tray or not. The home position of the paddles is detected by the paddle home position sensor (S3).

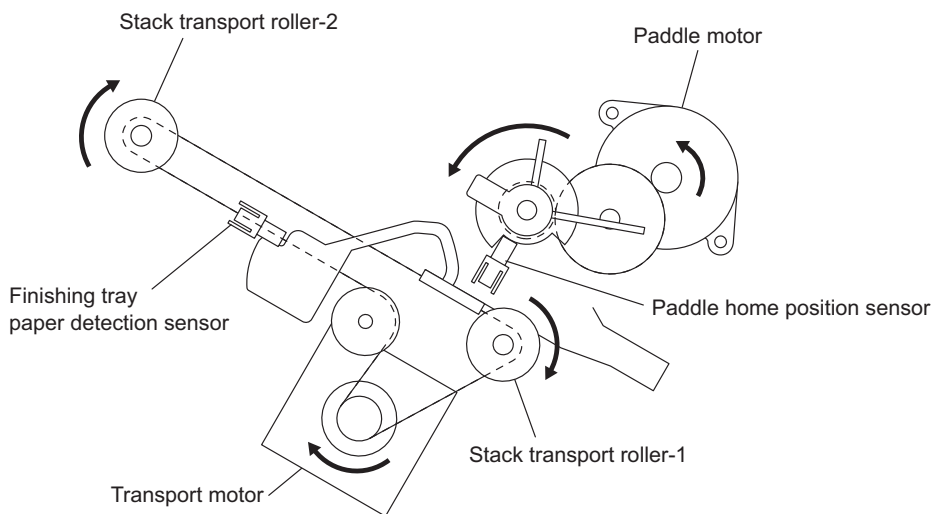


Fig. 3-13

[C] Bundle Job Offset Operation

The bundle job offset operation is to sort bundles of paper by placing the first bundle a little forward and placing the next bundle a little backward, and repeating this set of movement.

The paper transported to the finishing tray is bundled and each bundle is placed by the alignment plates driven by the front alignment motor (M5) and the rear alignment motor (M6).

The home position of each alignment plate is detected by the front alignment plate home position sensor (S7) and the rear alignment plate home position sensor (S8).

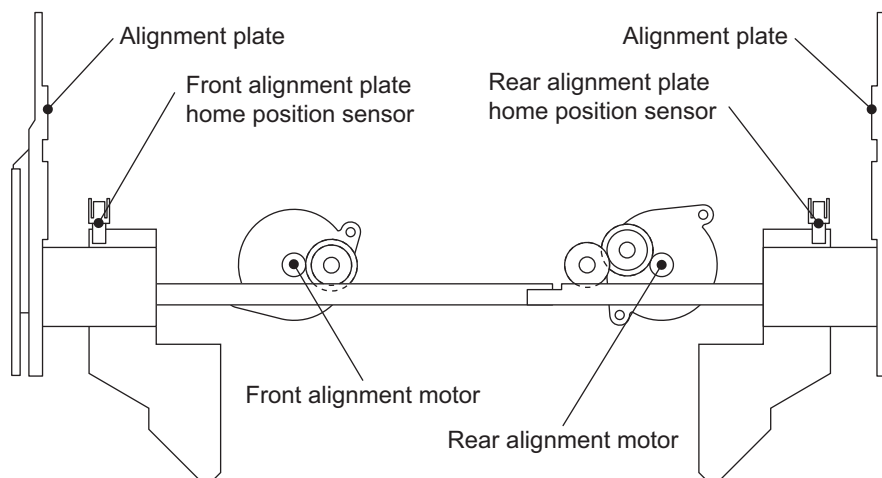


Fig. 3-14

[D] Stapling Operation

The stapling operation is to staple a specified number of paper with the stapler unit.

The stapler unit is moved to the stapling position (the position differs depending on the paper size) by the stapler unit shift motor (M9).

The home position of the stapler unit is detected by the stapler unit home position sensor (S10).

The stapler interference switch (SW3) detects the no-operation area for the stapling operation and cuts off the power supply to the stapler while it is switched ON.

The stapling operation is also stopped in the area where while the stapler interference sensor (S11) is turned ON to prevent the stapler from interfering with other mechanical sections in the equipment.

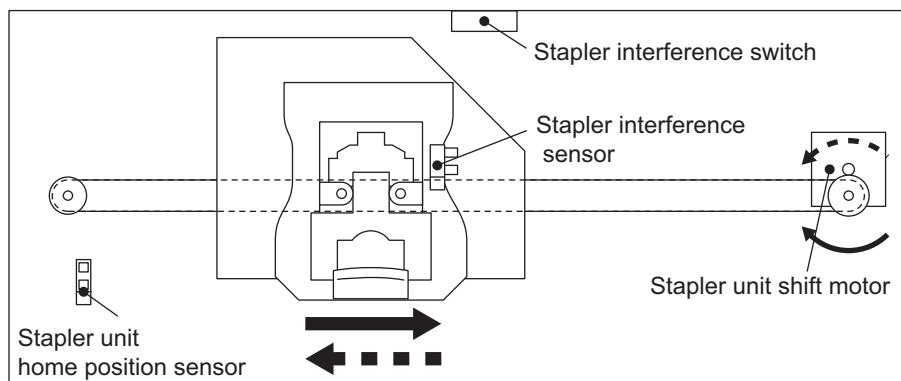


Fig. 3-15

[E] Paper exiting operation

Bundles of the paper aligned or stapled on the finishing tray are then pulled up by the paper exit guide driven by the stack transport motor (M8) with the turning ON of the paper exit guide clutch (CLT2). Then the paper is exited by the paper exit belt driven by the stack transport motor (M8) and the stack transport rollers-1 and -2 driven by the transport motor (M2) onto the movable tray. The home position of the paper exit belt is detected by the stack exit belt home position sensor (S9).

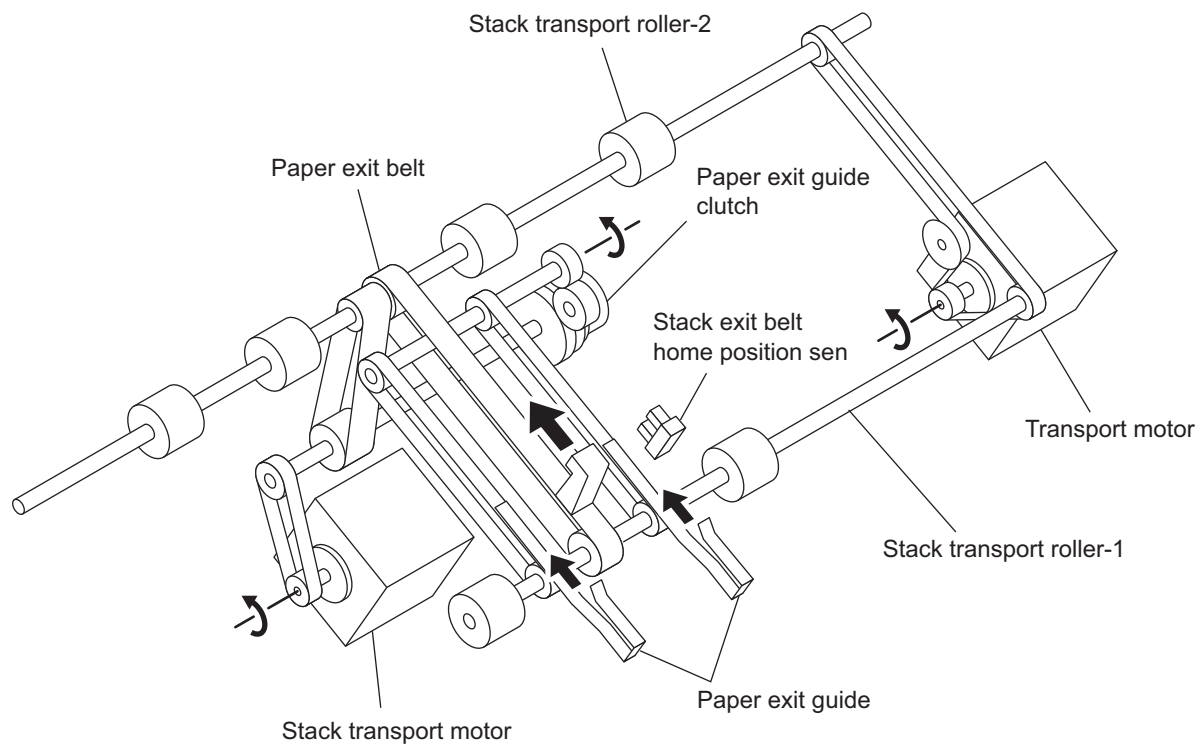


Fig. 3-16

3.1.5 Operation in the saddle stitch section

The center-binding mode binds a stack of paper at its center by stapling at two positions and then folds in half again to exit it to the saddle tray. In this mode paper transported from the feeding section is stacked on the stacker. The stacks of paper are aligned on the stacker and moved to the stapling position together with the stacker. Then the moved stacks are fixed and stapled, and then moved to the folding position. Then they are folded with the folding blade and the folding roller. After this, the folded stacks are again folded and exited to the saddle tray.

[A] Saddle stitch feeding section

Paper transported from the junction box is then transported to the stacker with the transport roller, ejecting roller and assisting roller driven by the saddle transport motor (M16).

The junction box paper detection sensor (S26), transport path-2 sensor (S27), transport path-3 sensor (S28) and ejecting roller sensor (S29) detect the passing of the paper.

When the ejecting roller sensor (S29) detects that paper has passed, the assisting roller solenoid (SOL6) is turned ON to contact the assisting roller with the paper to transport it to the stacker.

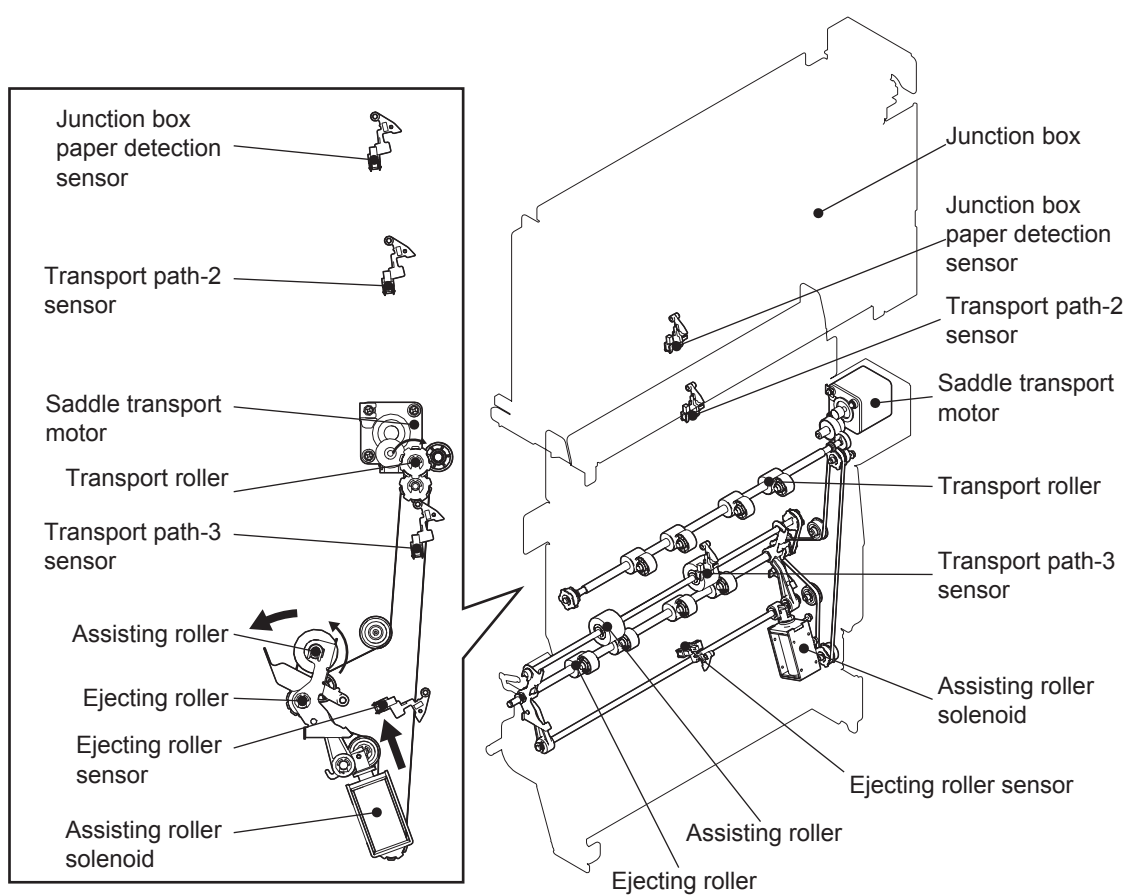


Fig. 3-17

[B] Stack transport

A stacker carrier is moved to the stapling position or the folding position by the stacker motor (M14). The home position of the stacker is detected by the stacker home position sensor (S33). The presence of paper in the stacker is detected by the stacker paper detection sensor (S30).

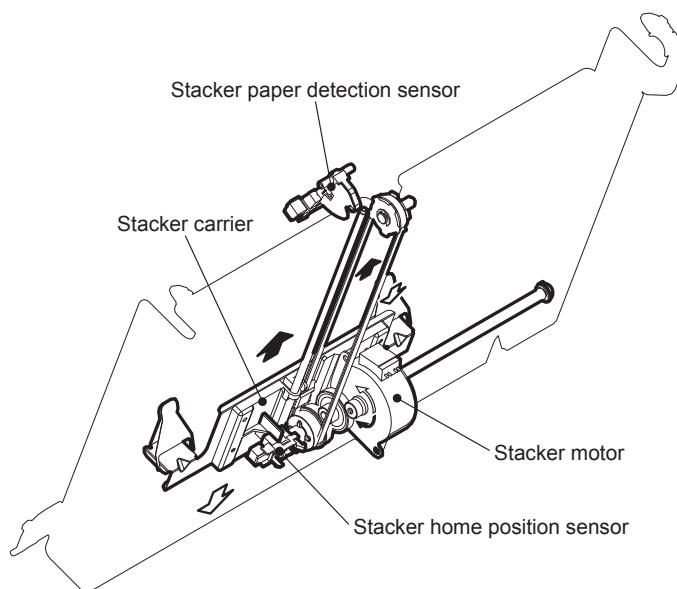


Fig. 3-18

[C] Side alignment

Stacks of paper transported to the stacker are aligned to fix their sideways deviation with a jog moved by the side alignment motor (M15). The home position of the jog is detected by the side alignment home position sensor (S36).

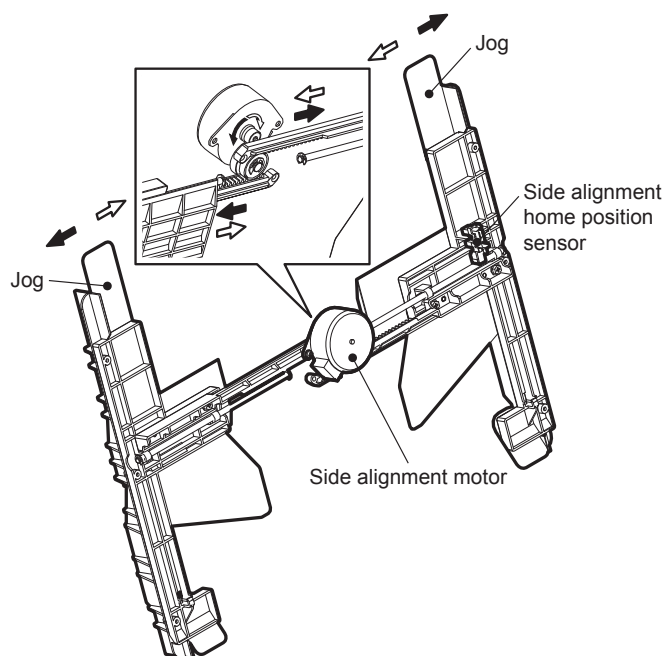


Fig. 3-19

[D] Paper holding

The paper holding clutch (CLT4) is turned ON to let the saddle transport motor (M16) drive the paper holding cam.

The home position of the paper holding cam is detected by the paper holding home position sensor (S38).

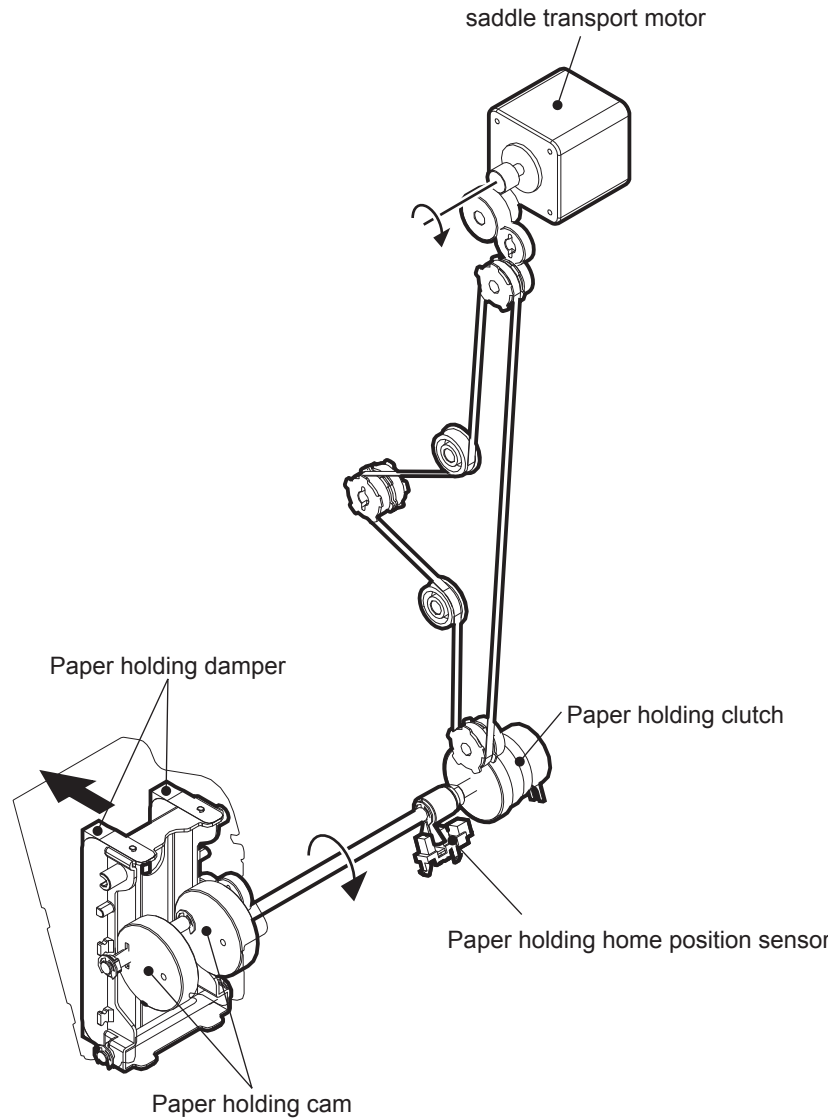


Fig. 3-20

[E] Stapling

Stacks of paper aligned and fixed at the stapling position are stapled with two stapler units on the front and rear sides.

[F] Folding

The folding blade is pressed onto the center of the stack of paper stapled and moved to the folding position, and then the folding roller lets the stack of paper sandwich the blade so that the stack will be folded again.

The folding blade clutch (CLT3) is turned ON to press the folding blade to the stack of paper by rotating the blade cam driven by the folding motor (M17).

The rotation of the folding motor (M17) is detected by the folding motor encoder sensor (S34).

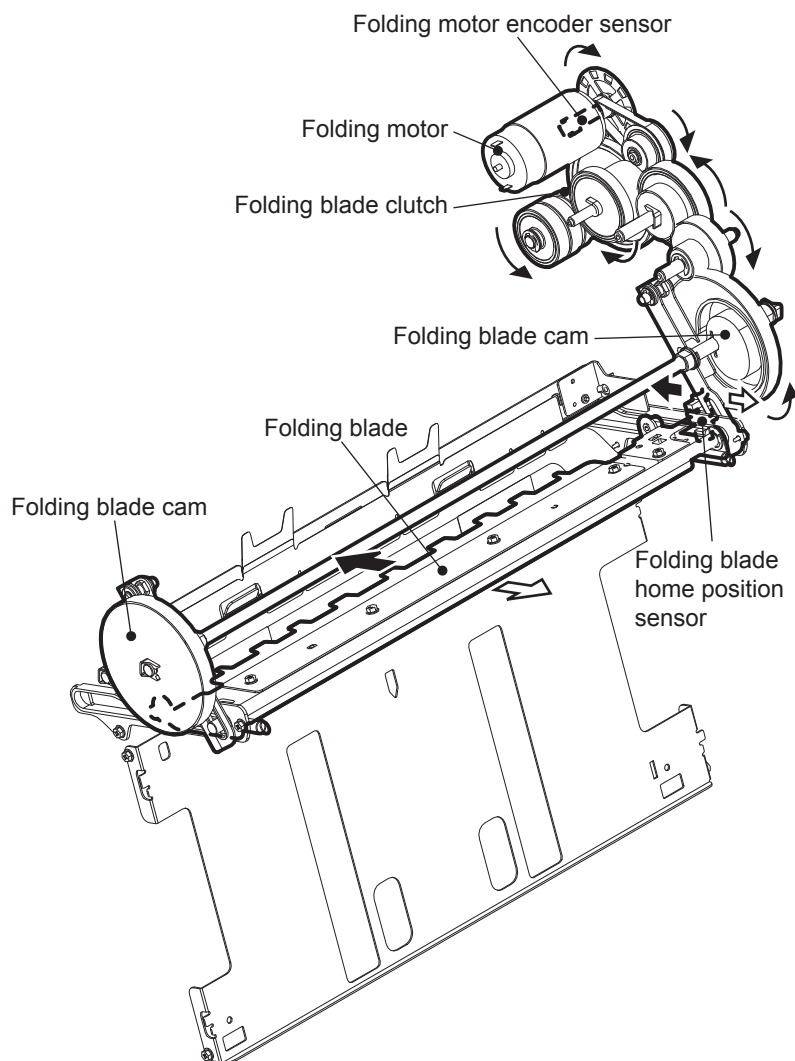


Fig. 3-21

After this, the stack of paper is folded as it passes the folding roller driven by the folding motor (M17).

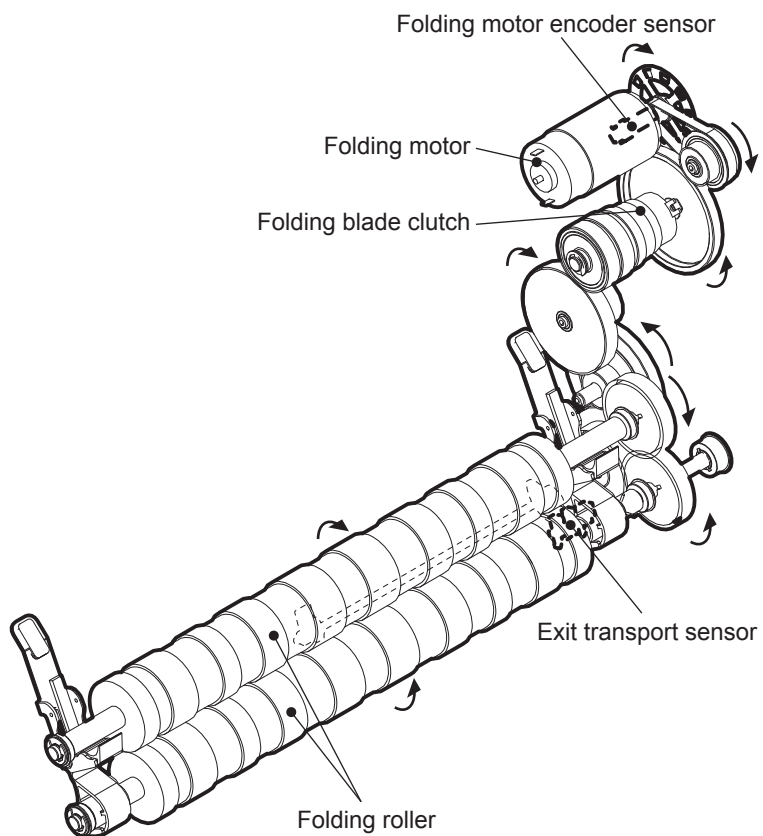


Fig. 3-22

[G] Additional folding / exiting

The stack of paper folded by the folding roller is stopped with the exit transport sensor (S41) at the stopping position. The folded paper is then folded again by moving the additional folding carrier roller forward and backward.

The home position of the additional folding carrier is detected by the additional folding home position sensor (S39).

The additional folding carrier is driven by the additional folding motor (M20). The rotation of the additional folding motor (M20) is detected by the additional folding motor encoder sensor (S42).

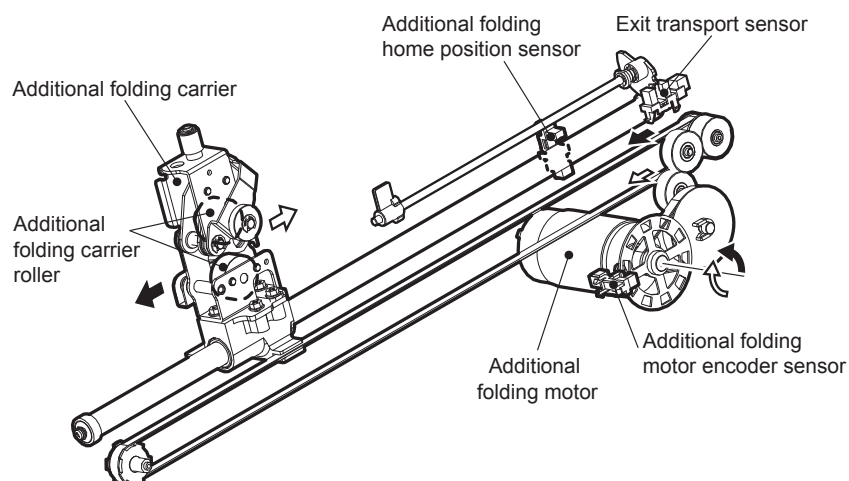


Fig. 3-23

After this, the paper is exited to the saddle tray with the saddle exit roller driven by the folding motor (M17).

The passing of the paper is detected by the exit sensor (S31).

The presence of paper on the saddle tray is detected by the stack tray paper detection sensor (S32).

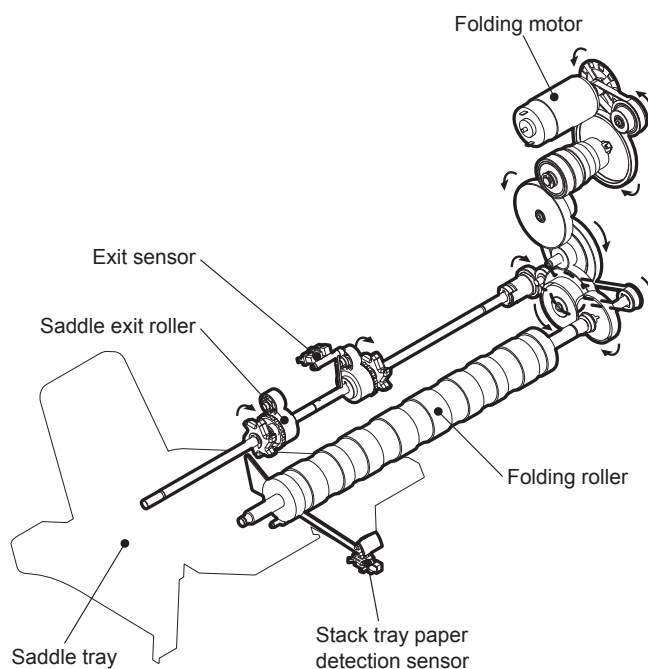


Fig. 3-24

3.2 Flow Chart

[A] Simple stack mode

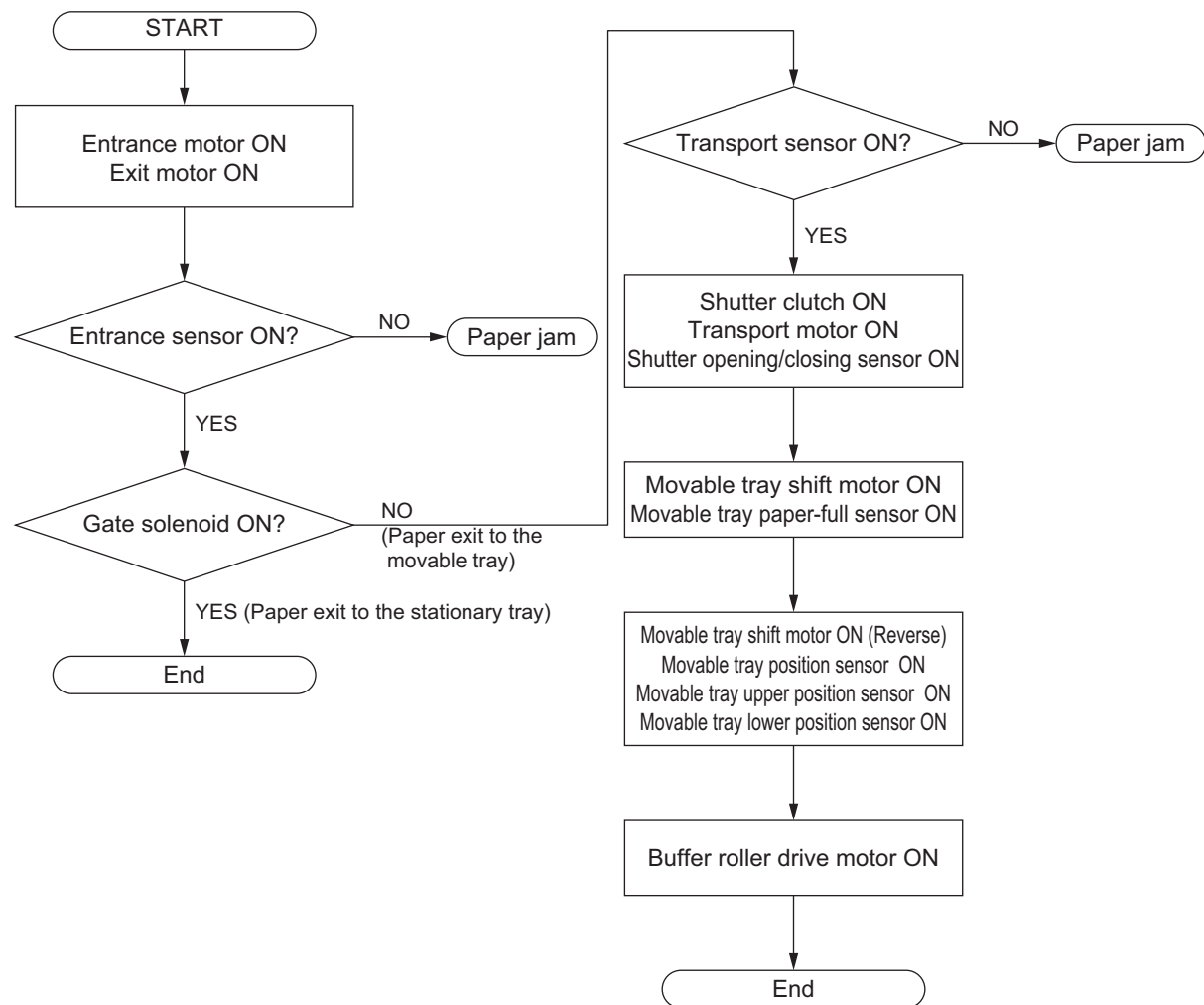


Fig. 3-25

[B] Bundle job offset mode/ stapling stack mode

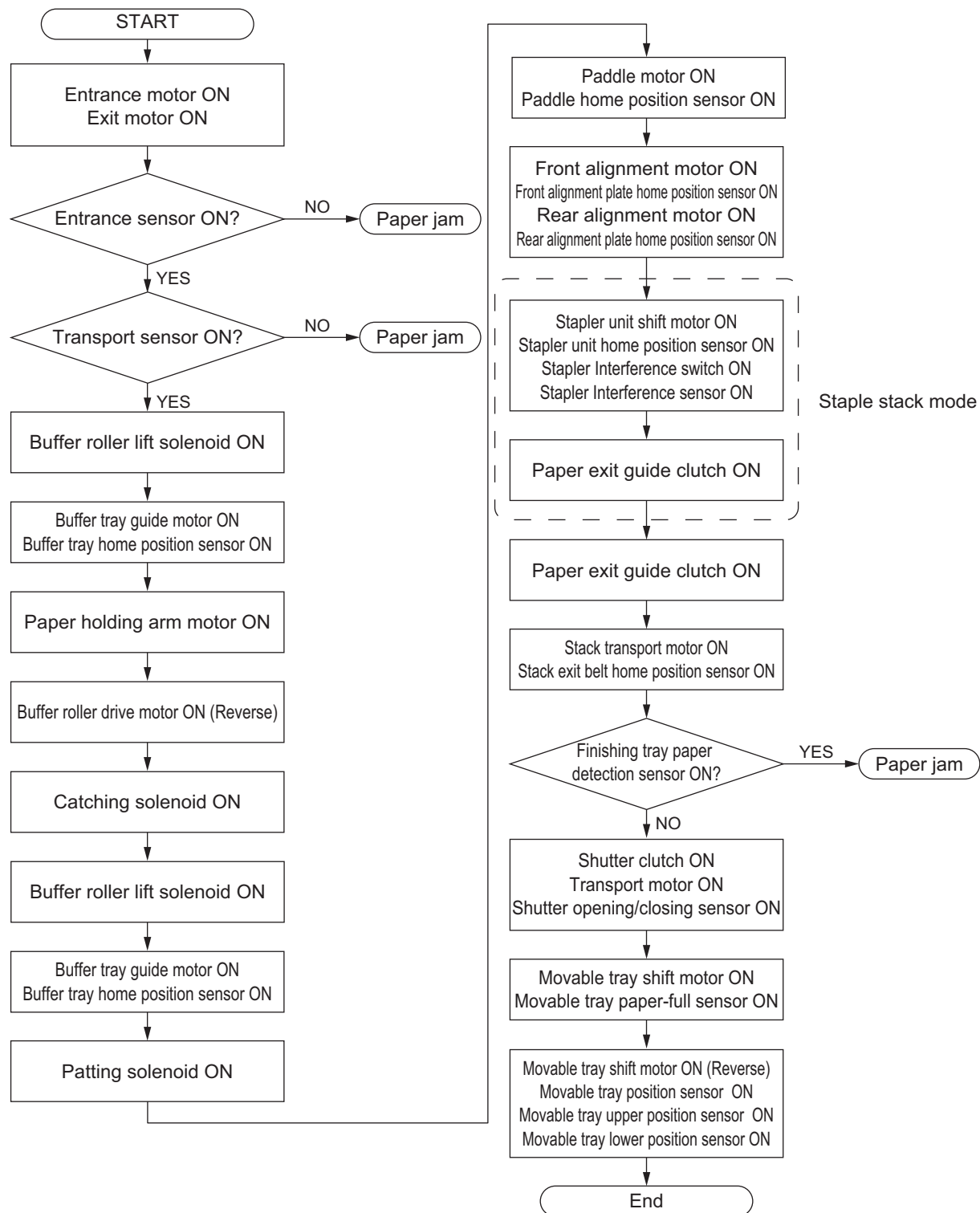


Fig. 3-26

[C] Center-binding mode

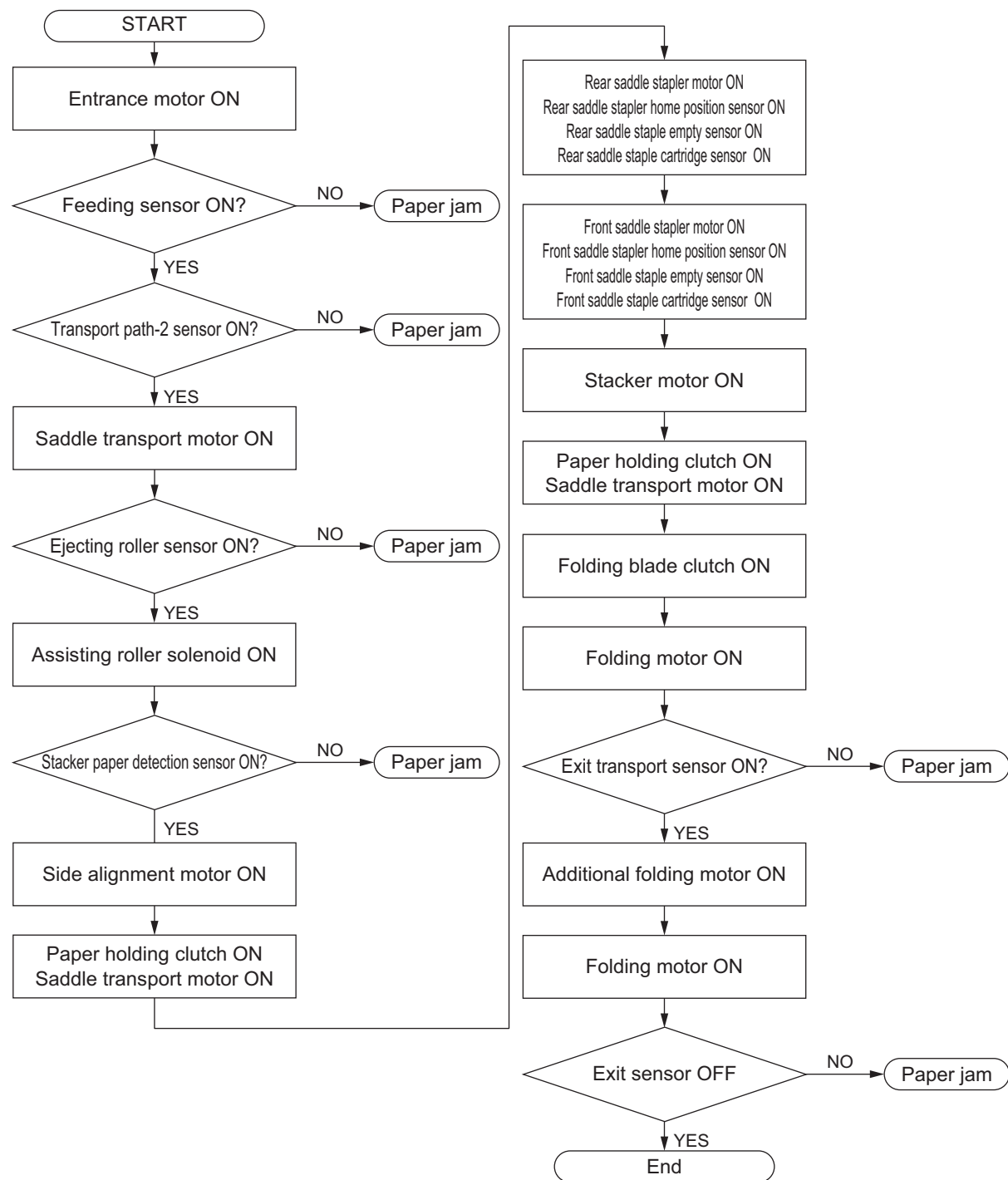


Fig. 3-27

3.3 Description Of Circuit

3.3.1 Finishier section

[A] Buffer roller drive circuit

The buffer roller drive circuit controls the rotation and stoppage, rotational direction and motor current of the buffer roller drive motor.

The buffer roller drive motor is driven by pulse signals (MT4-OUT1A, MT4-OUT1B, MT4-OUT2A and MT4-OUT2B) output from the motor driver (IC47) under the command of a clock signal (TIOCA4), a rotational direction signal (MOT4-DIR) and a current setting signals (MOT4-CUR1 and MOT4-CUR0) from the CPU of the finisher control PC board, and thus this motor rotates the buffer roller.

TIOCA4	MOT4-DIR	MOT4-CUR1	MOT4-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	Paper is transported to the movable tray.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	Not used.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

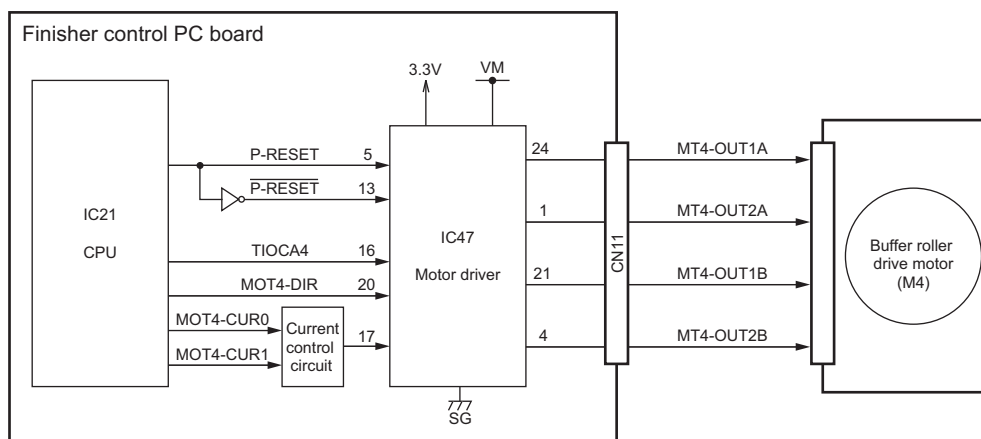


Fig. 3-28

[B] Paper pushing arm motor drive circuit

The paper pushing arm motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the paper pushing arm motor.

The paper pushing arm motor is driven by pulse signals (MT10-OUT1A, MT10-OUT1B, MT10-OUT2A and MT10-OUT2B) output from the motor driver (IC49) under the command of a clock signal (TIOCC0), a rotational direction signal (MOT10-DIR) and a current setting signals (MOT10-CUR1 and MOT10-CUR0) from the CPU of the finisher control PC board, and thus this motor holds the paper with the paper pushing plate.

TIOCC0	MOT10- -DIR	MOT10- -CUR1	MOT10- -CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	The trailing edge of the paper is held down by the paper pushing plate.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	Not used
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

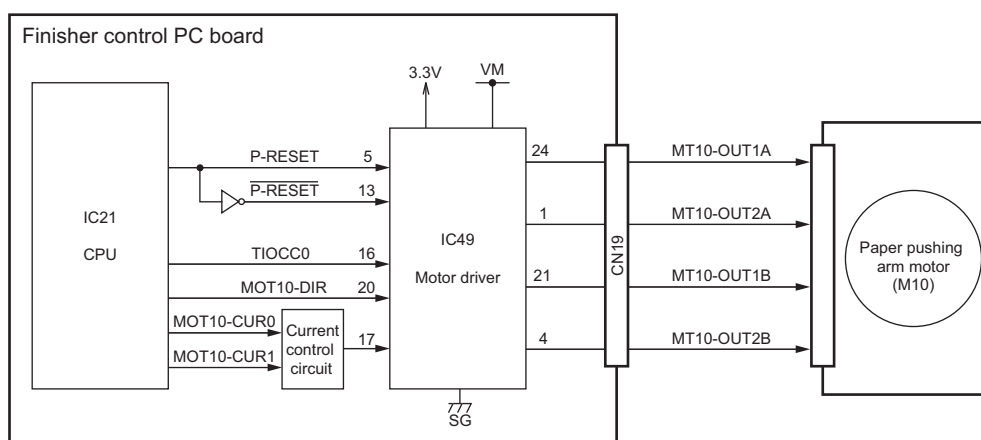


Fig. 3-29

[C] Buffer tray guide motor drive circuit

The buffer tray guide motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the buffer tray guide motor.

The buffer tray guide motor is driven by pulse signals (MOT2-OUT1A, MOT2-OUT1B, MOT2-OUT2A and MOT2-OUT2B) output from the motor driver (IC48) under the command of a clock signal (TIOCA5), a rotational direction signal (MOT2-DIR) and a current setting signals (MOT2-CUR1 and MOT2-CUR0) from the CPU of the finisher control PC board, and thus this motor opens or closes the buffer tray guide.

TIOCA5	MOT2-DIR	MOT2-CUR1	MOT2-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	The guide is closed.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	The guide is opened.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

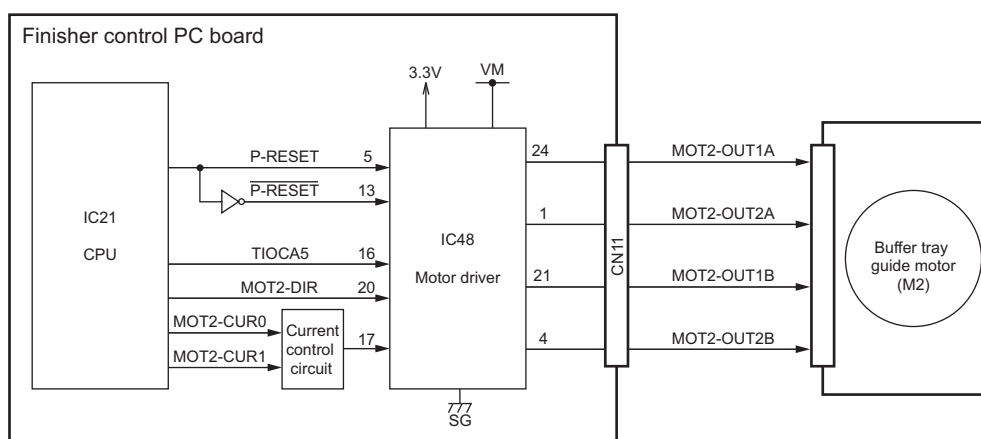


Fig. 3-30

[D] Front / rear alignment motor drive circuit

The front / rear alignment motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the front alignment motor.

The front alignment motor is driven by pulse signals (MT5-OUT1A, MT5-OUT1B, MT5-OUT2A and MT5-OUT2B) output from the motor driver (IC45) under the command of a clock signal (TMO2), a rotational direction signal (MOT5-DIR) and a current setting signals (MOT5-CUR1 and MOT5-CUR0) from the CPU of the finisher control PC board, and thus this motor opens or closes the front alignment plate of the finishing tray.

The rear alignment motor is driven by pulse signals (MT6-OUT1A, MT6-OUT1B, MT6-OUT2A and MT6-OUT2B) output from the motor driver (IC41) under the command of a clock signal (TMO3), a rotational direction signal (MOT6-DIR) and a current setting signals (MOT6-CUR1 and MOT6-CUR0) from the CPU of the finisher control PC board, and thus this motor opens or closes the rear alignment plate of the finishing tray.

TMO2	MOT5-DIR	MOT5-CUR1	MOT5-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	The front alignment plate is closed.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	The front alignment plate is opened.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

TMO3	MOT6-DIR	MOT6-CUR1	MOT6-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	The rear alignment plate is closed.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	The rear alignment plate is opened.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

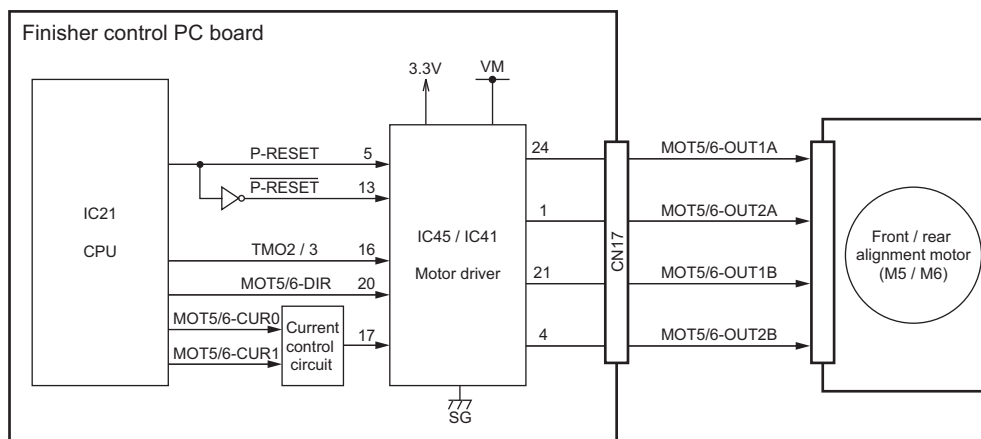


Fig. 3-31

[E] Stack transport motor drive circuit

The stack transport motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the stack transport motor.

The stack transport motor is driven by pulse signals (MOT8-OUT1A, MOT8-OUT1B, MOT8-OUT2A and MOT8-OUT2B) output from the motor driver (IC38) under the command of a clock signal (TIOCA3), a rotational direction signal (MOT8-DIR) and current setting signals (MOT8-CUR1 and MOT8-CUR0) from the CPU of the finisher control PC board, and thus this motor rotates the stack transport belt.

TIOCA3	MOT8-DIR	MOT8-CUR1	MOT8-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	Not used.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	Paper is transported to the movable tray.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

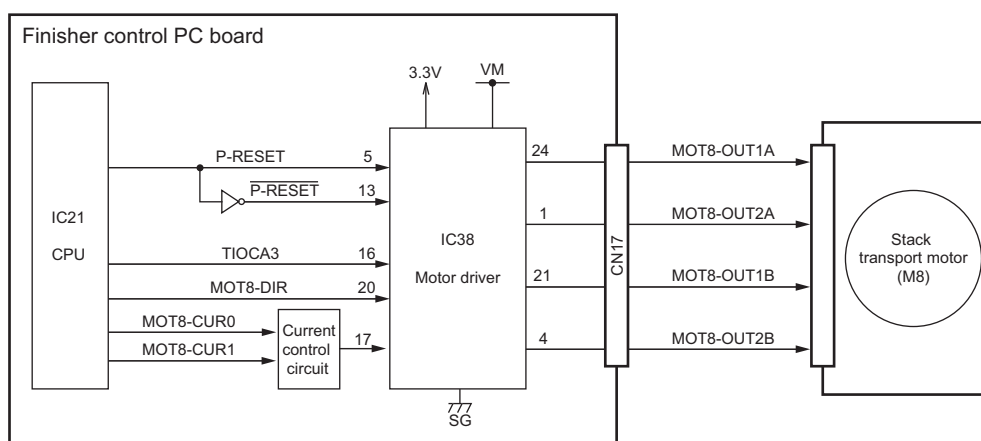


Fig. 3-32

[F] Entrance motor drive circuit

The entrance motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the entrance motor.

The entrance motor is driven by pulse signals (MOT1-OUT1A, MOT1-OUT1B, MOT1-OUT2A and MOT1-OUT2B) output from the motor driver (IC1) under the command of a clock signal (TIOCA1), a rotational direction signal (MOT1-DIR) and current setting signals (MOT1-CUR1 and MOT1-CUR0) from the CPU of the finisher control PC board, and thus this motor rotates the feeding roller, junction roller and entrance roller.

TIOCA1	MOT8-DIR	MOT8-CUR1	MOT8-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	Paper is pulled in.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	Not Used.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

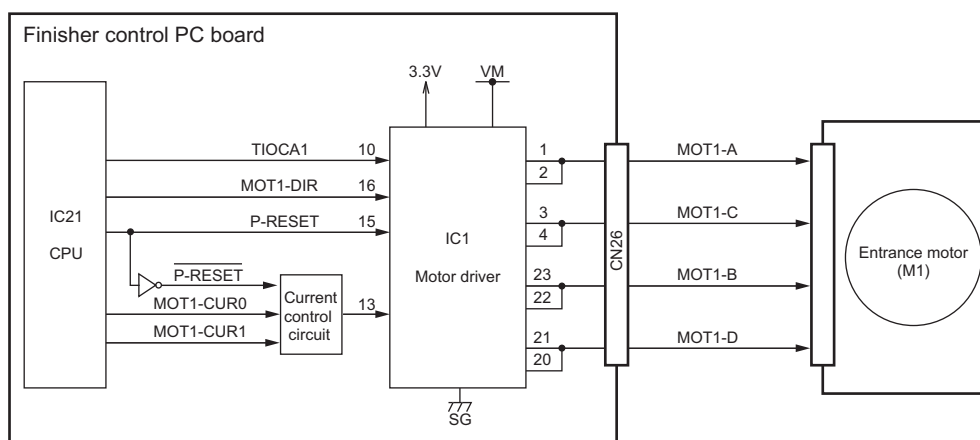


Fig. 3-33

[G] Exit motor drive circuit

The exit motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the exit motor.

The exit motor is driven by pulse signals (MT11-OUT1A, MT11-OUT1B, MT11-OUT2A and MT11-OUT2B) output from the motor driver (IC44) under the command of a clock signal (TIOCA2), a rotational direction signal (MOT11-DIR) and current setting signals (MOT11-CUR1 and MOT11-CUR0) from the CPU of the finisher control PC board, and thus this motor rotates the stationary tray roller and exit roller.

TIOCA2	MOT11-DIR	MOT11-CUR1	MOT11-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	Paper is transported to the stationary tray or buffer tray.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

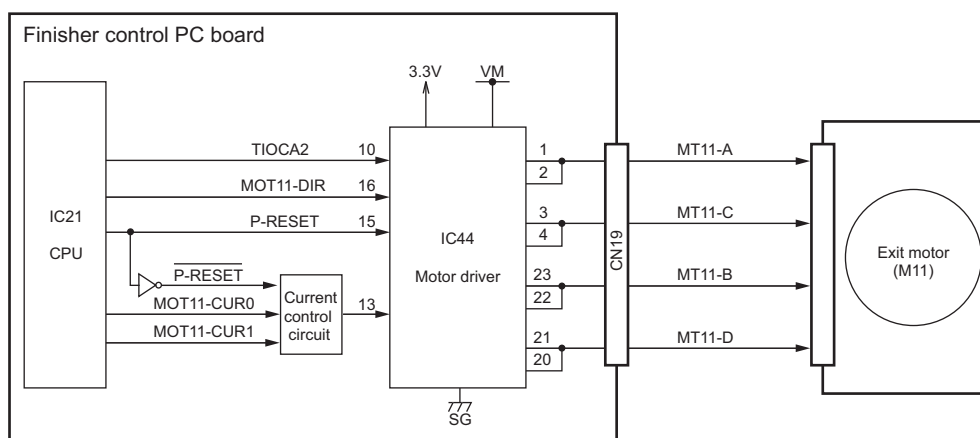


Fig. 3-34

[H] Stapler unit shift motor drive circuit

The stapler unit shift motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the stapler unit shift motor.

The stapler unit shift motor is driven by pulse signals (MOT9-OUT1A, MOT9-OUT1B, MOT9-OUT2A and MOT9-OUT2B) output from the motor driver (IC42) under the command of a clock signal (TIOCA3), a rotational direction signal (MOT9-DIR) and a current setting signals (MOT9-CUR1 and MOT9-CUR0) from the CPU of the finisher control PC board, and thus this motor shifts the stapler unit back and forth.

TIOCA3	MOT9-DIR	MOT9-CUR1	MOT9-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	The stapler unit is shifted to the front side.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	The stapler unit is shifted to the rear side.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

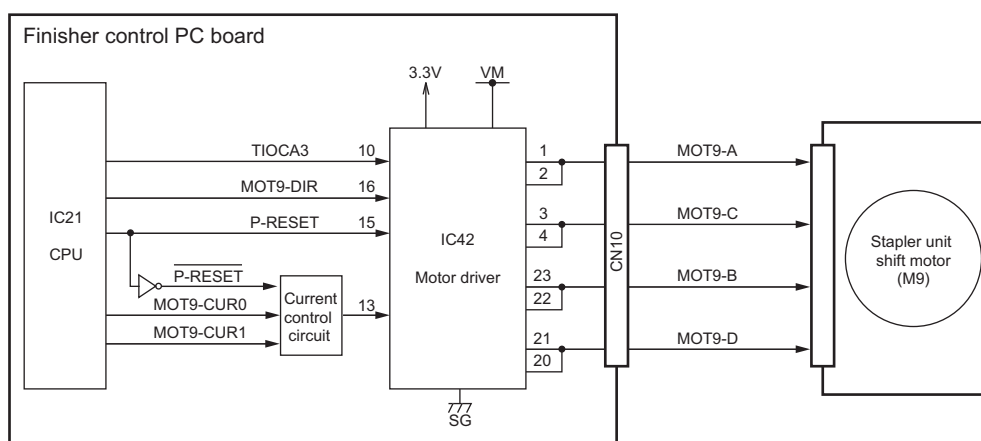


Fig. 3-35

[I] Transport motor drive circuit

The transport motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the transport motor.

The transport motor is driven by pulse signals (MOT7-OUT1A, MOT7-OUT1B, MOT7-OUT2A and MOT7-OUT2B) output from the motor driver (IC43) under the command of a clock signal (TIOCA0), a rotational direction signal (MOT7-DIR) and current setting signals (MOT7-CUR1 and MOT7-CUR0) from the CPU of the finisher control PC board, and thus this motor rotates the stack transport roller-1 and -2.

TIOCA0	MOT7-DIR	MOT7-CUR1	MOT7-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	Paper is transported to the finishing position.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	Paper is transported to the movable tray.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

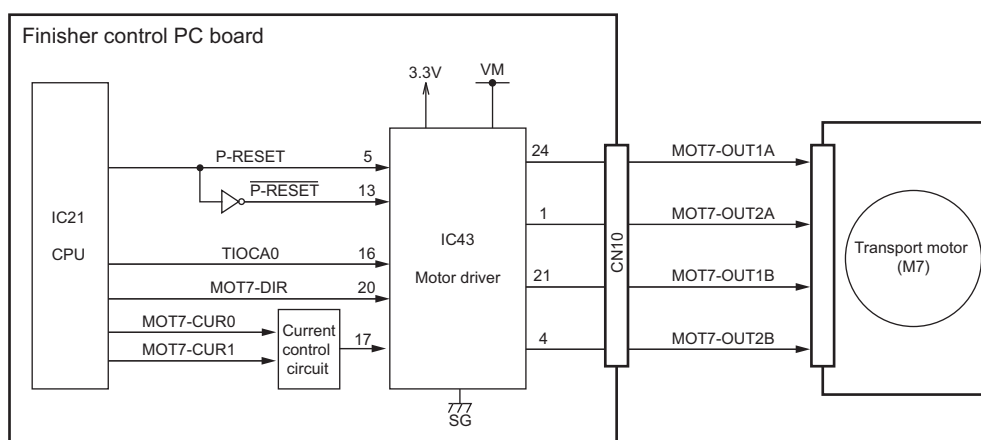


Fig. 3-36

[J] Paddle motor drive circuit

The paddle motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the paddle motor.

The paddle motor is driven by pulse signals (MOT3-OUT1A, MOT3-OUT1B, MOT3-OUT2A and MOT3-OUT2B) output from the motor driver (IC2) under the command of a clock signal (TIOCC3), a rotational direction signal (MOT3-DIR) and a current setting signals (MOT3-CUR1 and MOT3-CUR0) from the CPU of the finisher control PC board, and thus this motor rotates the paddle.

TIOCC3	MOT3-DIR	MOT3-CUR1	MOT3-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	Paper is pulled into the finishing position and then pushed off.
Clock signal	H	L	L	Normal (Normal power)	
Clock signal	L	L	H	Reverse (Low power)	Eliminates backlash.
Clock signal	L	L	L	Reverse (Normal power)	
-	-	H	-	Stop	

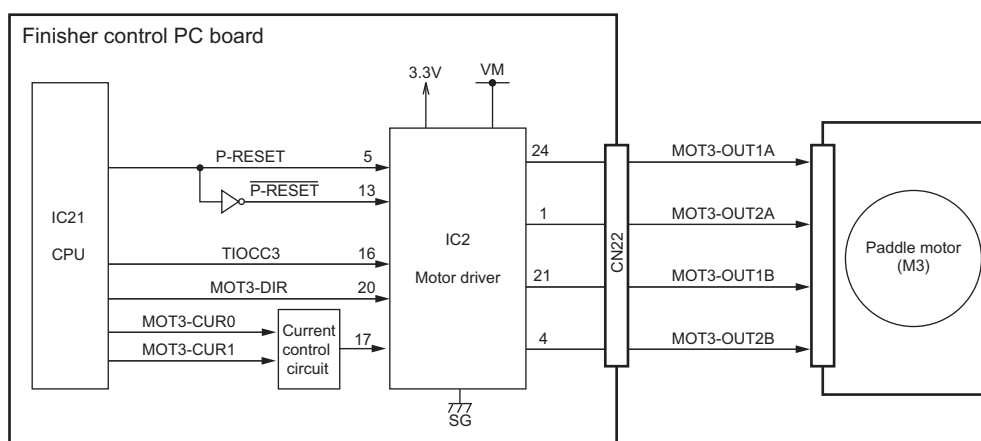


Fig. 3-37

[K] Movable tray shift motor drive circuit

The movable tray shift motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the movable tray shift motor.

The movable tray shift motor is a DC motor which is driven by rotation control signals (DM1-CNT1 and DM1-CNT0) from the CPU of the finisher control PC board, and thus this motor shifts the movable tray in a hoisting movement. For the case when an overcurrent status is detected, a protection circuit is mounted to turn the movable tray shift motor off.

DM1-CNT0	DM1-CNT1	Motor rotation	Remarks
H	L	Normal	The movable tray unit is shifted to the lower side.
L	H	Reverse	The movable tray unit is shifted to the upper side.
H	H	Stop	
L	L	Stop	

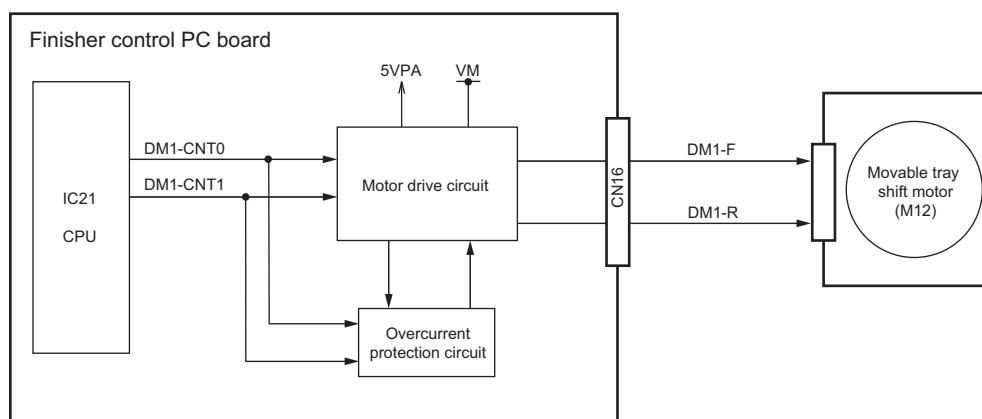


Fig. 3-38

[L] Stapler motor drive circuit

The stapler motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the stapler motor.

The stapler motor is a DC motor which is driven by rotation control signals (DM3-CNT1 and DM3-CNT0) from the CPU of the finisher control PC board, and thus this motor performs a stapling operation. For the case when an overcurrent status is detected, a protection circuit is mounted to turn the stapler motor off.

DM3-CNT0	DM3-CNT1	Motor rotation	Remarks
H	L	Normal	Operates the stapler.
L	H	Reverse	Recovery operation
H	H	Stop	
L	L	Stop	

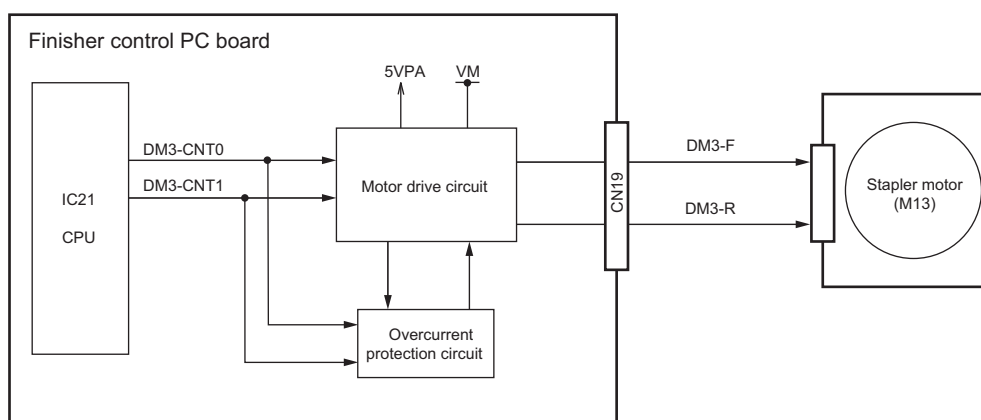


Fig. 3-39

[M] Reset circuit

The reset circuit generates a reset signal when the power is turned ON and when the power supply voltage is lowered. When 5VPA voltage is 4.25V or lower, the reset IC (IC22) resets the CPU (IC21) and Flash ROM (IC4) by determining that the output of pin 1 is at a low level.

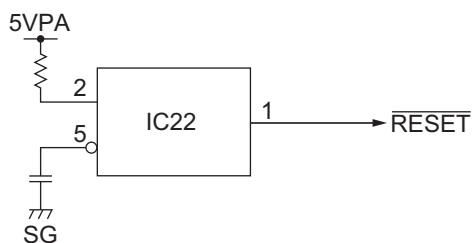


Fig. 3-40

3.3.2 Saddle section

[A] Stacker motor drive circuit

The stacker motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the stacker motor.

The stacker motor is driven by pulse signals (MOT3-OUT1A, MOT3-OUT1B, MOT3-OUT2A and MOT3-OUT2B) output from the motor driver (IC17) under the command of a clock signal (TMO2), a rotational direction signal (MOT3-DIR) and a current setting signal (MOT9-CUR0) from the CPU of the saddle control PC board, and thus this motor shifts the stacker stapling position and folding position.

TMO2	MOT3-DIR	MOT3-CUR0	Motor rotation	Remarks
Clock signal	H	L	Normal	The stacker is moved to the stapling position.
Clock signal	L	L	Reverse	The stacker is moved to the folding position.
-	-	H	Stop	

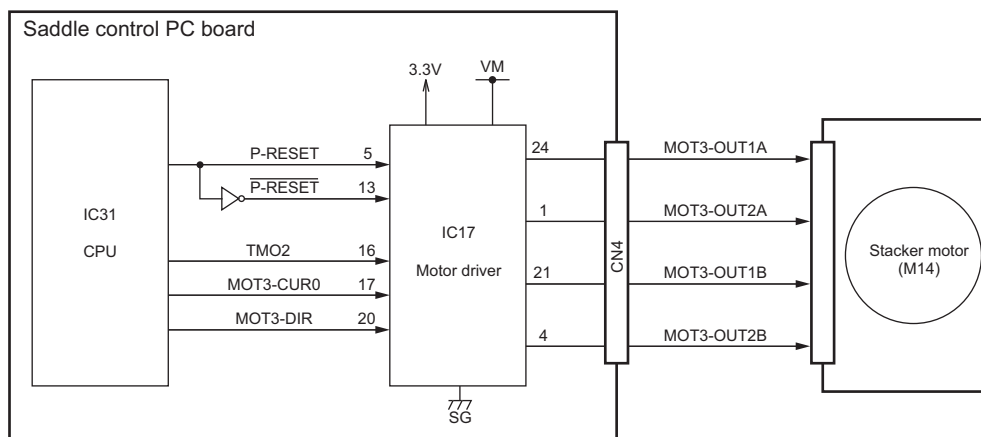


Fig. 3-41

[B] Side alignment motor drive circuit

The side alignment motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the side alignment motor.

The side alignment motor is driven by pulse signals (MOT4-OUT1A, MOT4-OUT1B, MOT4-OUT2A and MOT4-OUT2B) output from the motor driver (IC11) under the command of a clock signal (TMO3), a rotational direction signal (MOT4-DIR) and a current setting signal (MOT4-CUR0) from the CPU of the saddle control PC board, and thus this motor opens or closes the jog.

TMO3	MOT4-DIR	MOT4-CUR0	Motor rotation	Remarks
Clock signal	H	L	Normal	The paper is aligned to fix their side-ways deviation with a jog moved.
Clock signal	L	L	Reverse	Open the jog.
-	-	H	Stop	

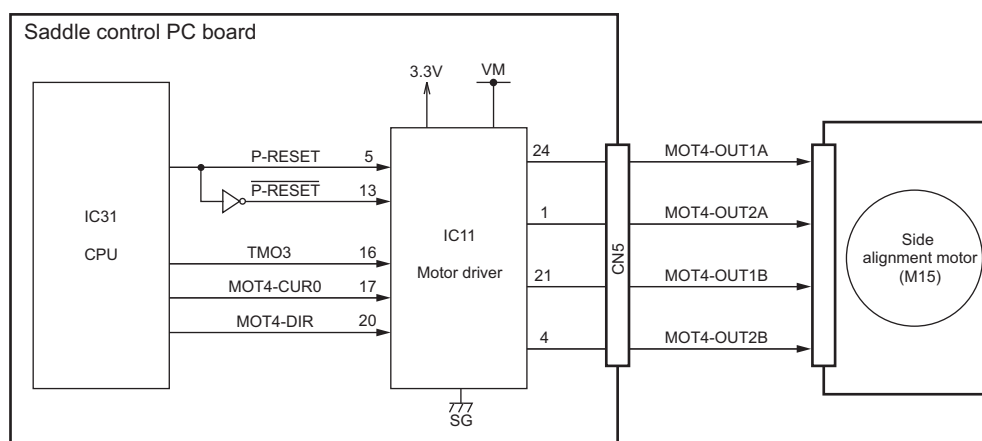


Fig. 3-42

[C] Front / Rear saddle stapler motor drive circuit

The front / rear saddle stapler motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the front / rear saddle stapler motor.

The front saddle stapler motor is a DC motor which is driven by rotation control signals (DM2-CNT1 and DM2-CNT0) from the CPU of the saddle control PC board, and thus this motor performs a stapling operation of the front saddle stapler.

DM2-CNT1	DM2-CNT0	Motor rotation	Remarks
L	H	Normal	Operates the stapler.
H	L	Reverse	Initial operation (Only when the stapler operates abnormally.)
H	H	Stop	
L	L	Stop	

The rear saddle stapler motor is a DC motor which is driven by rotation control signals (DM3-CNT1 and DM3-CNT0) from the CPU of the saddle control PC board, and thus this motor performs a stapling operation of the rear saddle stapler.

DM3-CNT1	DM3-CNT0	Motor rotation	Remarks
L	H	Normal	Operates the stapler.
H	L	Reverse	Initial operation (Only when the stapler operates abnormally.)
H	H	Stop	
L	L	Stop	

For the case when an overcurrent status is detected, a protection circuit is mounted to turn the front / rear saddle stapler motor off.

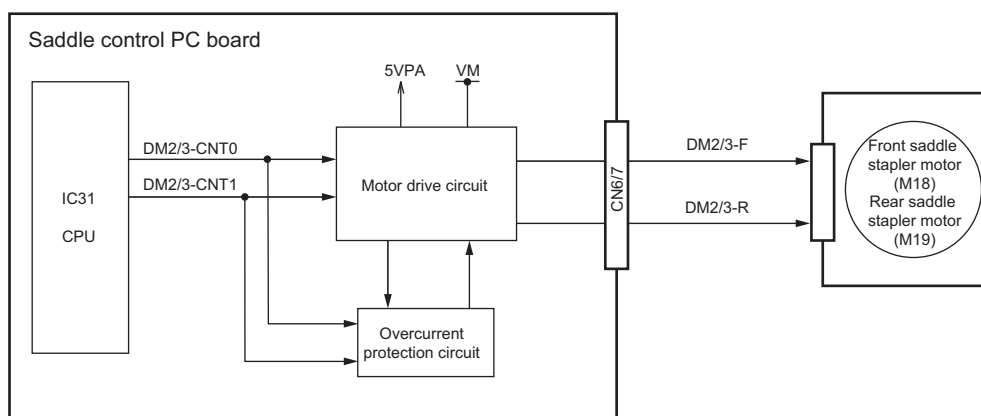


Fig. 3-43

[D] Saddle transport motor drive circuit

The saddle transport motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the saddle transport motor.

The saddle transport motor is driven by pulse signals (MOT2-OUT1A, MOT2-OUT1B, MOT2-OUT2A and MOT2-OUT2B) output from the motor driver (IC8) under the command of a clock signal (TIOCA0), a rotational direction signal (MOT2-DIR) and current setting signals (MOT2-CUR1 and MOT2-CUR0) from the CPU of the saddle control PC board, and thus this motor rotates the transport roller and the ejecting roller, and drives the paper holding cam in conjunction with the paper holding clutch.

TIOCA0	MOT2-DIR	MOT2-CUR1	MOT2-CUR0	Motor rotation	Remarks
Clock signal	H	L	H	Normal (Low power)	Paper is transported (at a transport speed lower than 200 mm/s).
Clock signal	H	L	L	Normal (Low power)	Paper is transported (at a transport speed 400 mm/s or higher).
Clock signal	L	L	H	Reverse (Low power)	Paper is transported (at a transport speed lower than 200 mm/s).
Clock signal	L	L	L	Reverse (Low power)	Paper is transported (at a transport speed 400 mm/s or higher).
-	-	H	-	Stop	

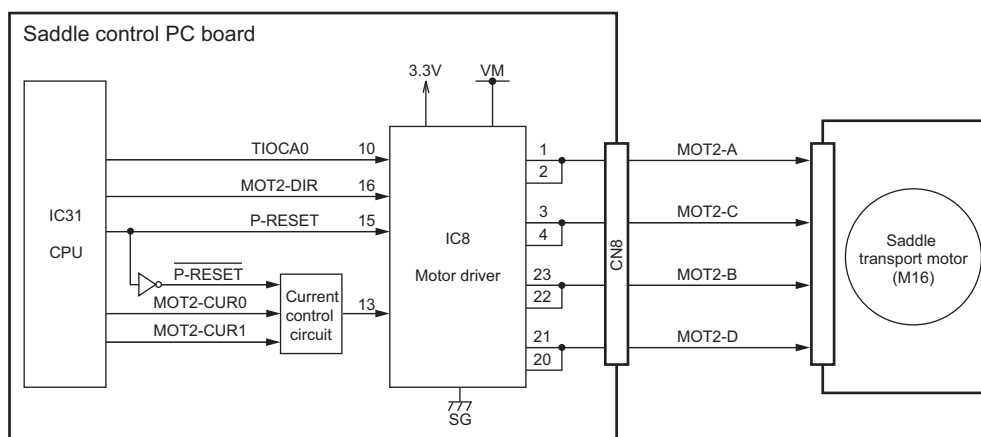


Fig. 3-44

[E] Folding motor drive circuit

The folding motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the folding motor.

The folding motor is a DC motor which is driven by rotation control signals (DM1-CNT1 and DM1-CNT0) from the CPU of the saddle control PC board, and thus this motor performs a folding operation and the paper is exited to the saddle tray.

DM1-CNT1	DM1-CNT0	Motor rotation	Remarks
L	H	Normal	Operates the folding.
H	L	Reverse	The paper is exited to the saddle tray
H	H	Stop	
L	L	Stop	Not used.

For the case when an overcurrent status is detected, a protection circuit is mounted to turn the folding motor off.

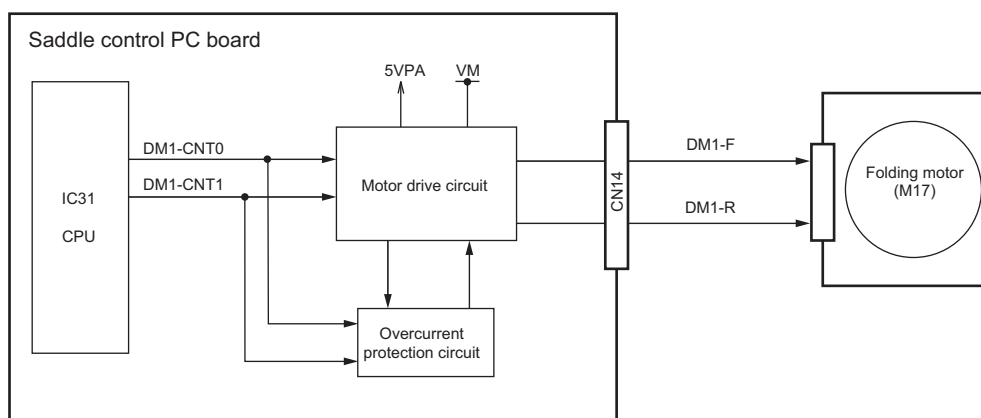


Fig. 3-45

[F] Additional folding motor drive circuit

The additional folding motor drive circuit controls the rotation and stoppage, rotational direction and motor current of the additional folding motor.

The additional folding motor is a DC motor which is driven by rotation control signals (DM4-CNT1 and DM4-CNT0) from the CPU of the saddle control PC board, and thus this motor performs a additional folding operation.

DM4-CNT1	DM4-CNT0	Motor rotation	Remarks
L	H	Normal	Operates the additional folding.
H	L	Reverse	Operates the additional folding
H	H	Stop	
L	L	Stop	Not used.

For the case when an overcurrent status is detected, a protection circuit is mounted to turn the additional folding motor off.

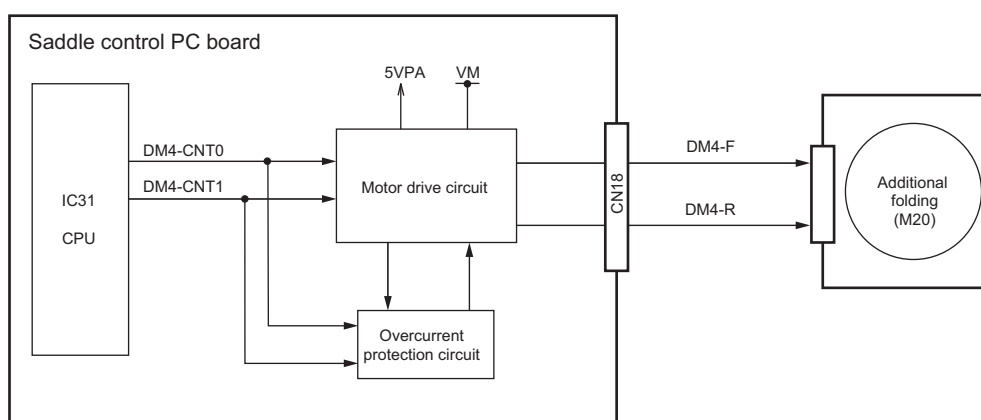


Fig. 3-46

4. DISASSEMBLY AND INSTALLATION

4.1 Covers

[A] Stationary tray

- (1) Open the stationary tray.
- (2) Loosen 2 screws each from the front and back side tray, and remove 2 right side screws.
- (3) Lift the stationary tray upward to take off while pulling the jam access lever.

Notes:

- Be sure to install or remove the stationary tray with the stationary tray being opened, otherwise the upper exit roller guide may be damaged.
- Be sure not to damage the actuator of the stationary tray paper-full sensor.

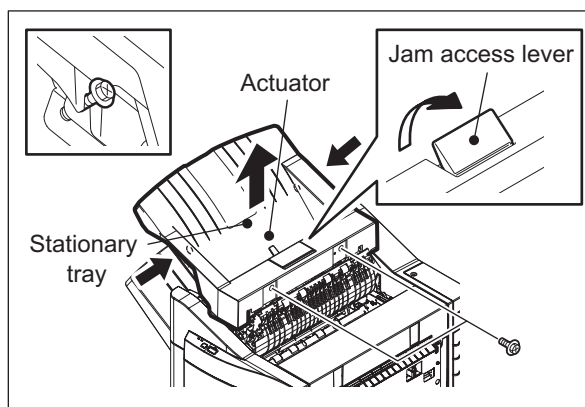


Fig. 4-1

Notes:

- Be sure not to lose 4 pins of the buffer unit-1.
- Before installing the stationary tray, adjust the installing positions of the 4 pins of the buffer unit-1 to the center position.

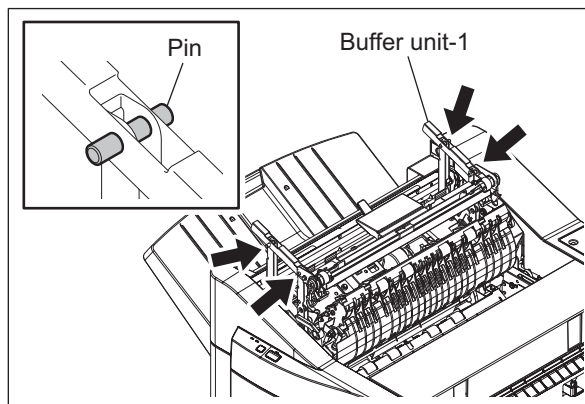


Fig. 4-2

[B] Movable tray

- (1) Remove 2 screws and slide the movable tray obliquely upward to take it off.

Notes:

- When installing, hang the 4 hooks of the movable tray on the holes of frame.
- When installing, engage the 2 holes of the movable tray with the positioning dowels of the main unit.

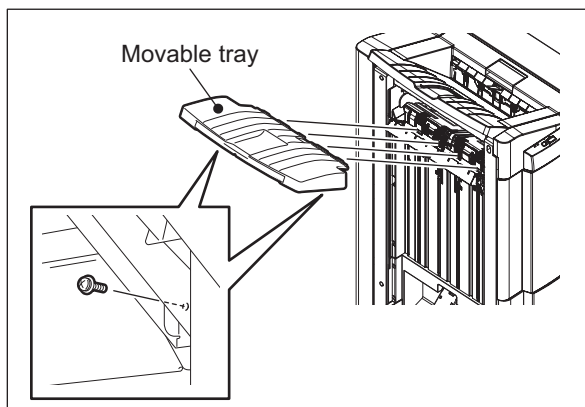


Fig. 4-3

[C] Saddle tray

- (1) Remove 2 screws, and then take off the leveling arm.

Note:

When installing, engage the 2 holes of the leveling arm with the positioning dowels of the main unit.

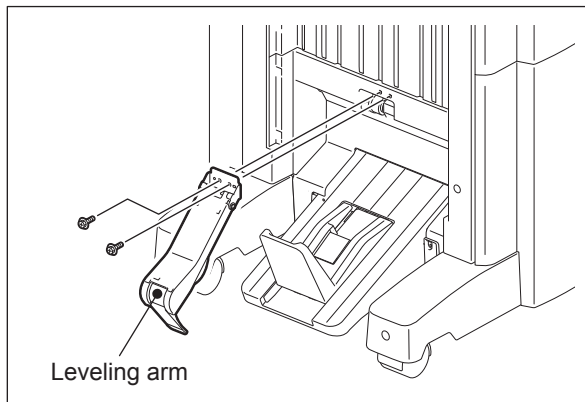


Fig. 4-4

- (2) Remove the slide tray.

Note:

When installing, hang 1 hook of the sliding tray on the hole of the saddle tray.

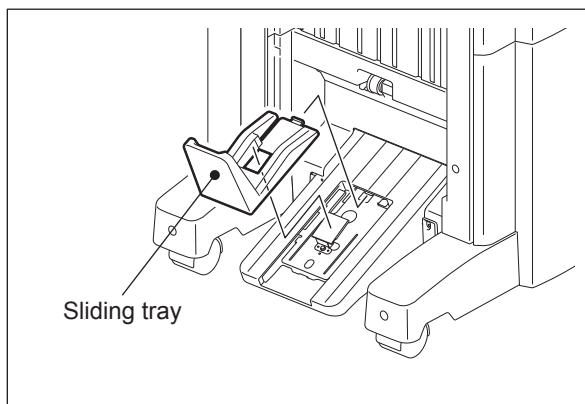


Fig. 4-5

- (3) Remove 2 screws, and then take off the saddle tray.

Note:

When installing, hang the 2 hooks of the saddle tray on the hole of the main unit.

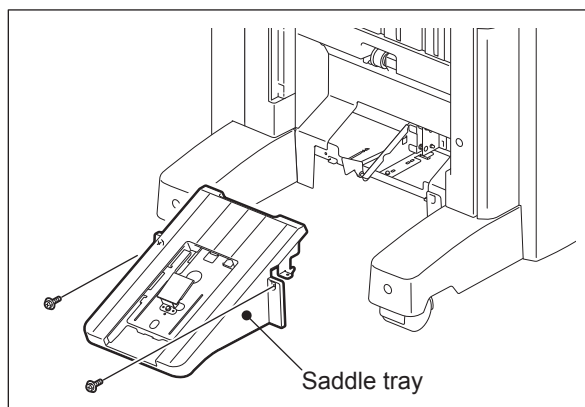


Fig. 4-6

[D] Control panel unit

- (1) Remove 1 screw on the upper side of the front rail cover.

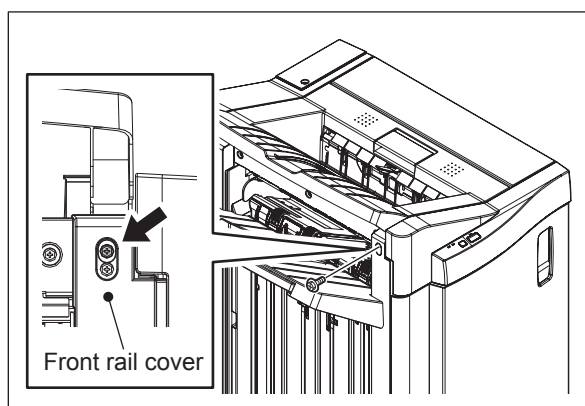


Fig. 4-7

- (2) Open the front cover (MJ-1103) or the front upper cover (MJ-1104).
- (3) Remove 2 screws, and then disconnect the connector to take off the control panel unit.

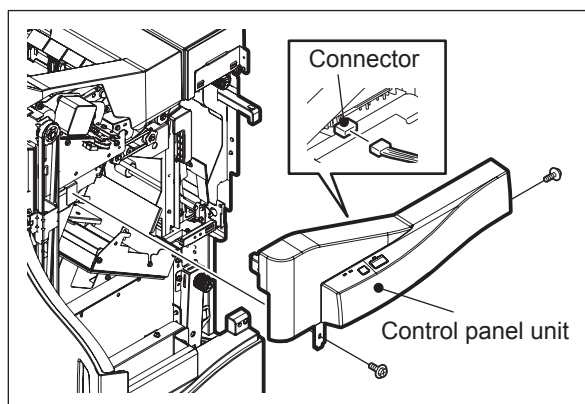


Fig. 4-8

[E] Front cover / Front upper cover / Front lower cover

[E-1] Front cover / Front upper cover / Front lower cover (MJ-1103)

- (1) Remove 1 screw on the upper side of the front rail cover

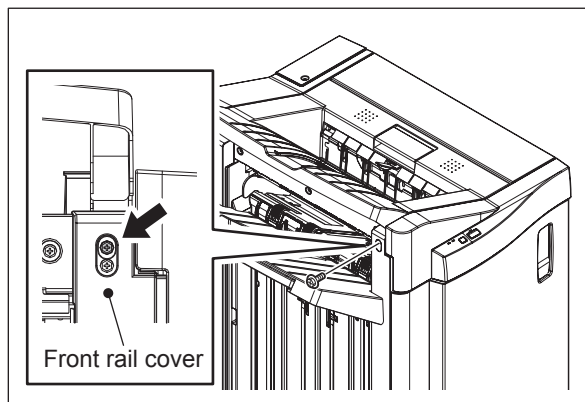


Fig. 4-9

- (2) Open the front cover, and then remove 1 screw on the left side of the control panel unit.
- (3) Slide the front cover upward. Take it off while you are sliding the left side of the control panel unit toward you.

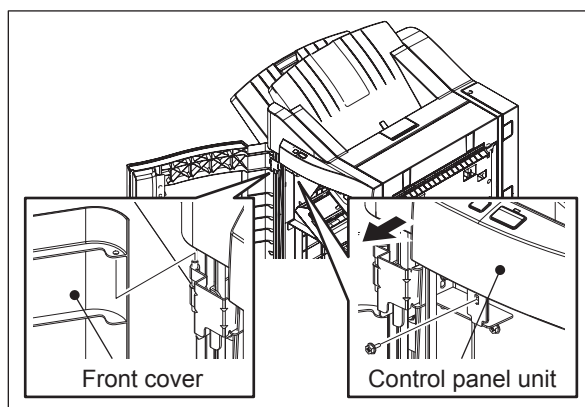


Fig. 4-10

- (4) Remove 1 screw, and then separate the front upper cover and the front lower cover of the front cover assembly.

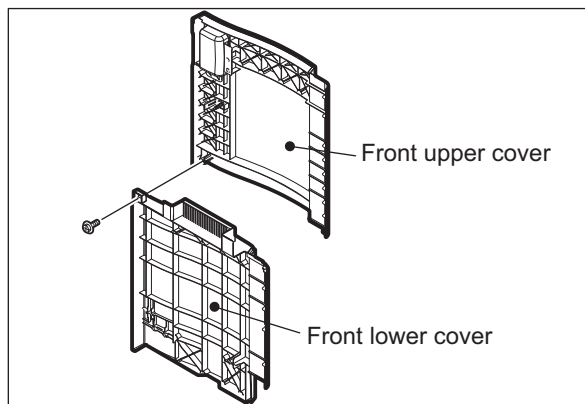


Fig. 4-11

[E-2] Front upper cover (MJ-1104)

- (1) Remove 1 screw on the upper side of the front rail cover.

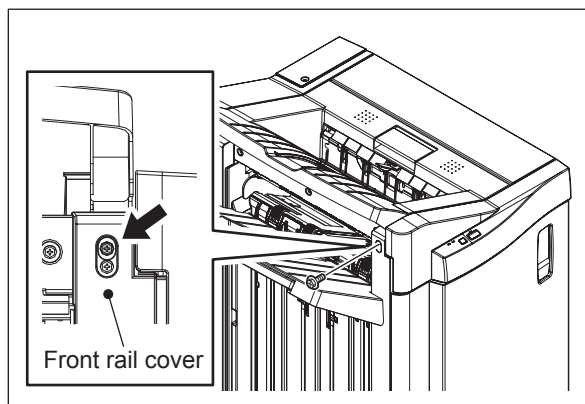


Fig. 4-12

- (2) Open the front cover, and then remove 1 screw on the left side of the control panel unit.
- (3) Slide the front cover upward and take it off while you are sliding the left side of the control panel unit toward you.

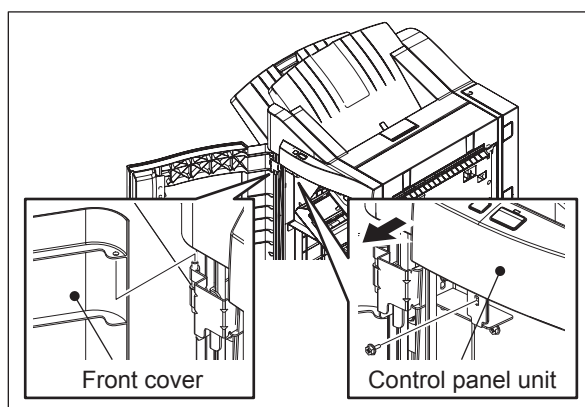


Fig. 4-13

[E-3] Front lower cover (MJ-1104)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 4 screws, and then take off the front lower cover.

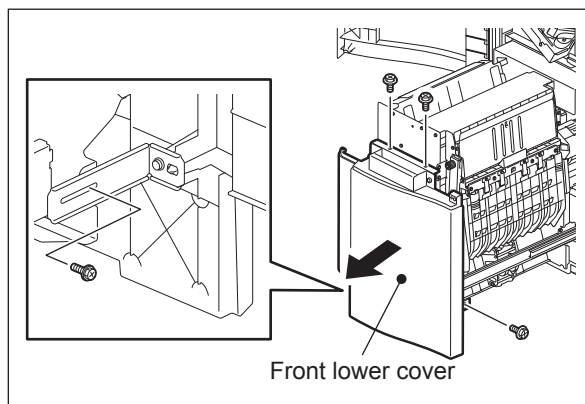


Fig. 4-14

[F] Handle cover / Cover lock bracket

- (1) Open the front cover (MJ-1103) or the front upper cover (MJ-1104).
- (2) Remove 2 screws, and then take off the handle cover.
- (3) Remove 1 screw, and then take off the cover lock bracket.

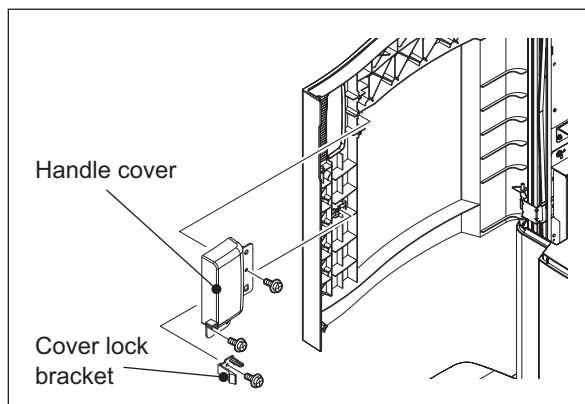


Fig. 4-15

[G] Rear cover

- (1) Remove the finisher cable out of the groove of the rear cover.
- (2) Remove 5 screws, and then take off the rear cover by sliding it upward.

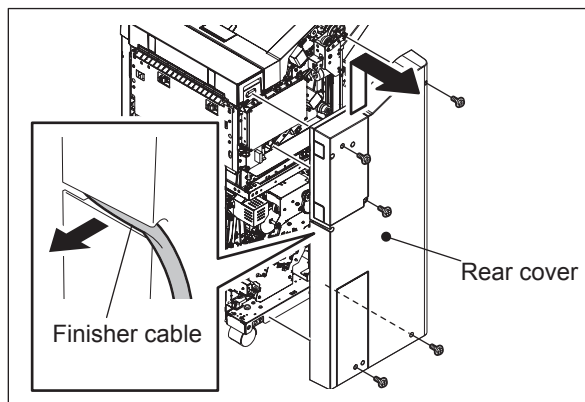


Fig. 4-16

[H] Access cover

- (1) Remove 2 screws, and then take off the access cover by sliding it upward.

Note:

When installing, hang 5 hooks of the board access cover on the holes of rear cover.

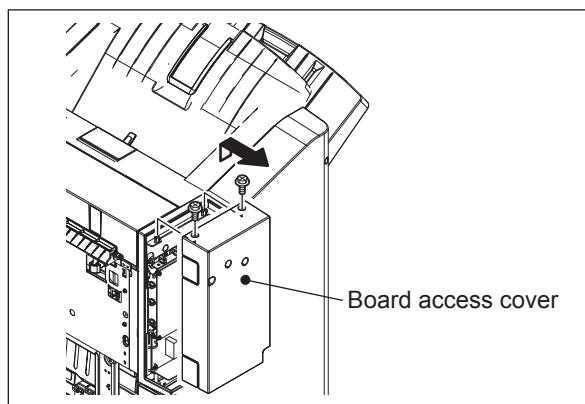


Fig. 4-17

[I] Saddle access cover

- (1) Remove 1 screw, and then take off the saddle access cover by sliding it downward.

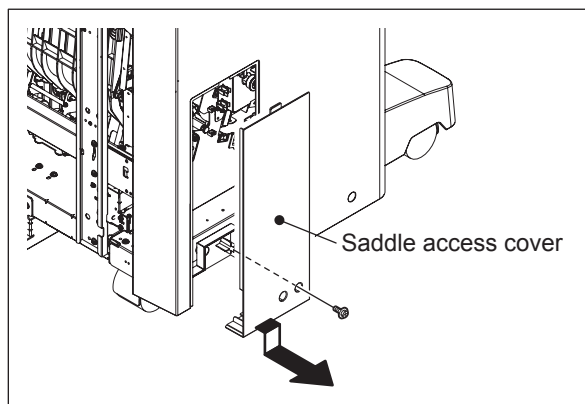


Fig. 4-18

[J] Right upper cover

- (1) Take off the control panel unit.
 P.4-3 "[D] Control panel unit"
- (2) Take off the rear cover.
 P.4-6 "[G] Rear cover"
- (3) Loosen 2 screws, and then take off the right upper cover.

Note:

When installing the right upper cover, hang the 2 hooks of the cover on the hole of the frame.

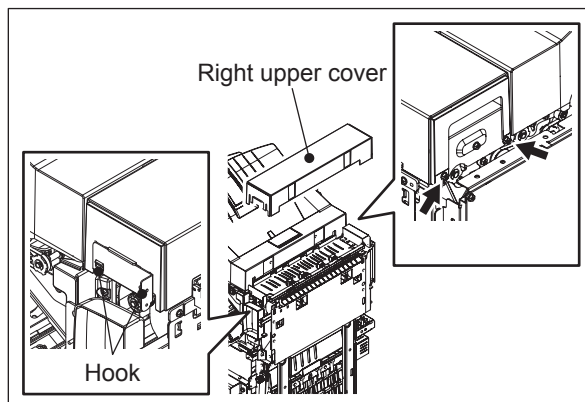


Fig. 4-19

[K] Relay guide / Feeding discharge brush / Right cover

- (1) Take off the access cover.
 P.4-6 "[H] Access cover"
- (2) Loosen 3 screws, and then take off the relay guide and feeding discharge brush.

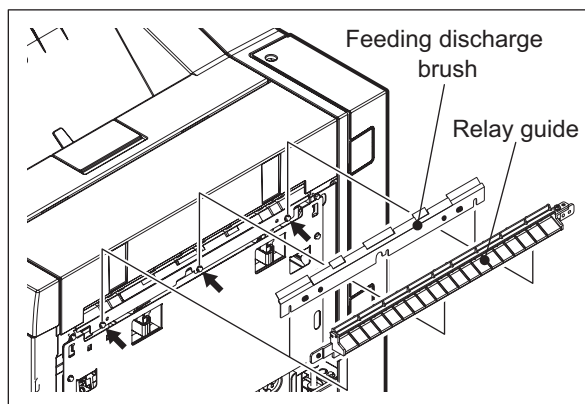


Fig. 4-20

- (3) Release the harness from 1 clamp.

Note:

When installing the right cover, pull the harness from the board access cover side tightly and fix it with a clamp in order not to permit the harness to slack off.

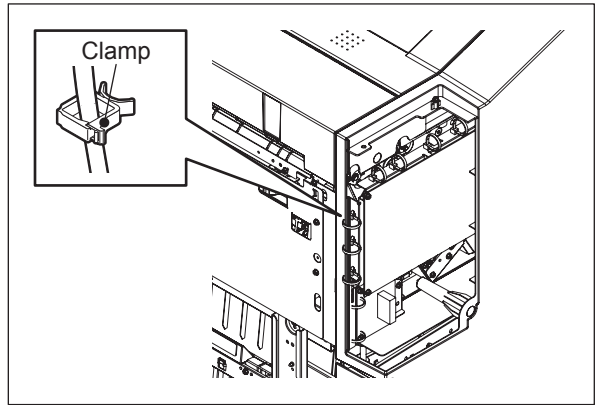


Fig. 4-21

- (4) Remove 4 screws, and then take off the right cover by sliding it upward.
(5) Disconnect the relay connector from the connection sensor. Then take off the right cover.

Note:

When installing the right cover, hang the 2 hooks of the cover on the holes of the frame.

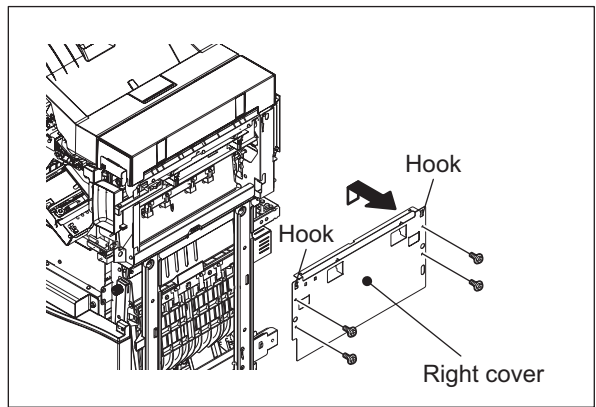


Fig. 4-22

[L] Left upper cover

- (1) Remove 3 screws, and then take off the left upper cover.

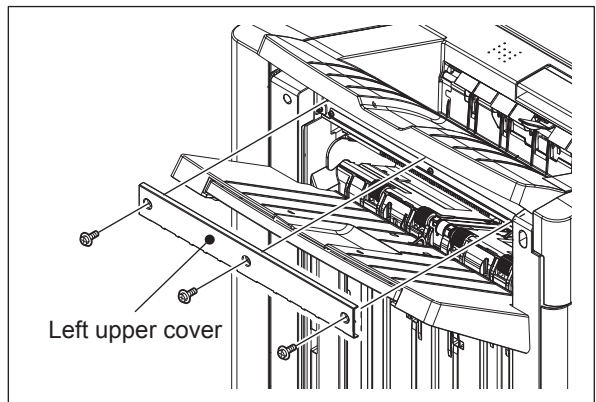


Fig. 4-23

[M] Front rail cover / Rear rail cover

- (1) Take off the movable tray.
P.4-2 "[B] Movable tray"
- (2) Open the front cover (MJ-1103) or the front upper cover and the saddle unit (MJ-1104), and then remove 1 screw on the left side of the control panel unit.
- (3) Remove 3 screws and slide the front rail cover upward to unhook it. Then take off the front rail cover from the main unit by sliding the left side of the control panel unit toward you.

Note:

When installing the front rail cover, hang the 3 hooks of the cover on the holes of the frame.

- (4) Remove 2 screws and slide the rear rail cover upward to unhook it. Then take off the rear rail cover from the main unit.

Note:

When installing the rear rail cover, hang the 3 hooks of the cover on the holes of the frame.

Note:

After the front and rear rail covers were installed, check that the movable tray does not touch with the rail covers by moving it up and down.

P.4-124 "4.12 Procedure for lowering the movable tray"

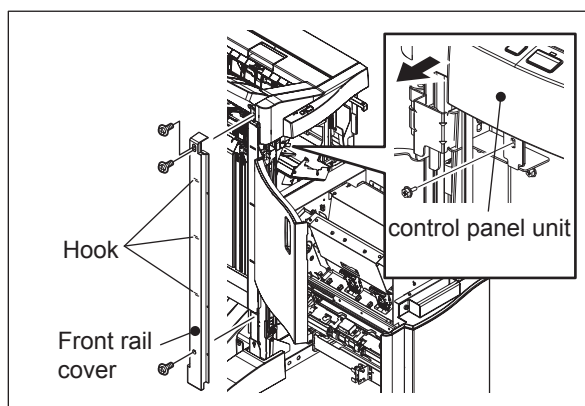


Fig. 4-24

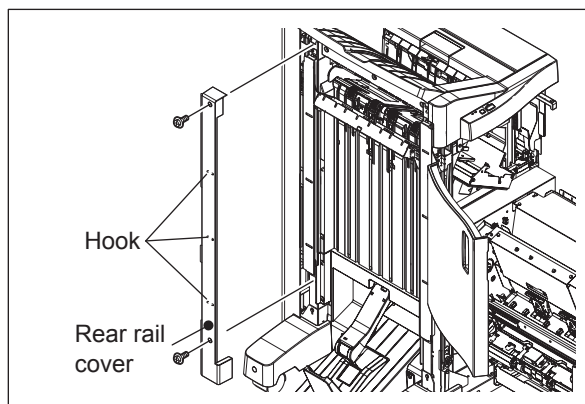


Fig. 4-25

[N] Grate-shaped guide

- (1) Take off the movable tray.
P.4-2 "[B] Movable tray"
- (2) Take off the rear cover.
P.4-6 "[G] Rear cover"
- (3) Release the harness out of 2 clamps, and then disconnect each connector of CN11 on the FIN board.
- (4) Disconnect the relay connector of shutter opening/closing sensor.

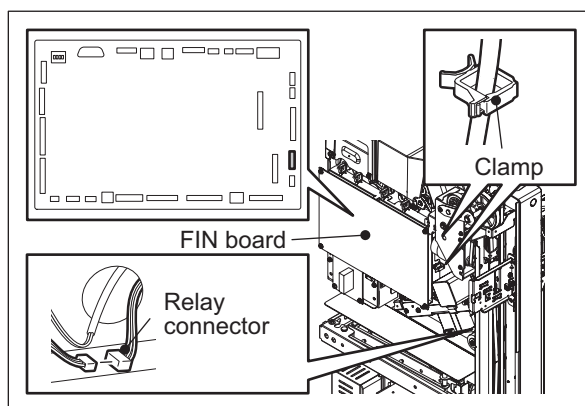


Fig. 4-26

- (5) Take off the front rail cover and rear rail cover.
P.4-9 "[M] Front rail cover / Rear rail cover"
- (6) Take off the movable tray.
P.4-124 "4.12 Procedure for lowering the movable tray"
- (7) Move the front alignment plate and the rear alignment plate to the center, and then take them off by pulling them out upward.

Note:

If the shutter is raised, move the frame downward.

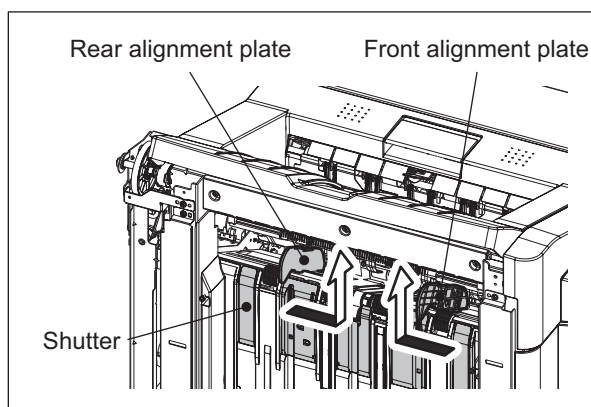


Fig. 4-27

- (8) Remove 6 screws, and then take off the grate-shaped guide by sliding it upward.

Note:

When installing the grate-shaped guide, hang the 2 hooks of the cover on the hooks of the frame.

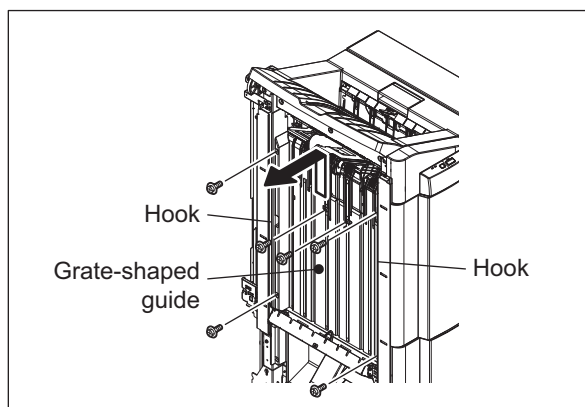


Fig. 4-28

- (9) Release the harness out of one clamp, and then take off the grate-shaped guide.

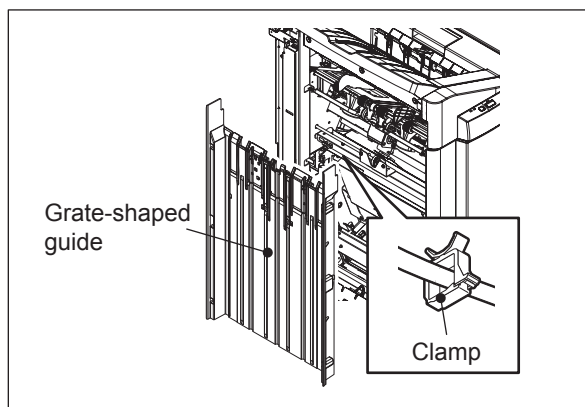


Fig. 4-29

Note:

When installing the grate-shaped guide, install the harness as shown in the figure.

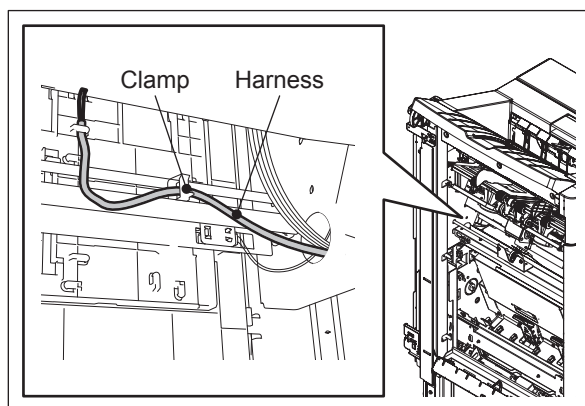


Fig. 4-30

[O] Left lower cover

[O-1] Left lower cover (MJ-1103)

- (1) Take off the movable tray.
 P.4-2 "[B] Movable tray"
- (2) Take off the front rail cover and rear rail cover.
 P.4-9 "[M] Front rail cover / Rear rail cover"
- (3) Remove 4 screws, and take off the left lower cover.

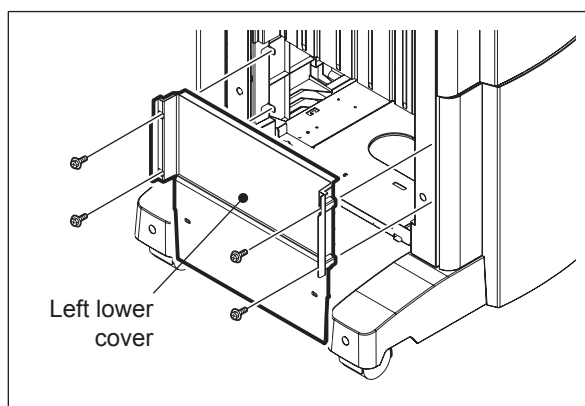


Fig. 4-31

[O-2] Left lower cover (MJ-1104)

- (1) Take off the movable tray.
P.4-2 "[B] Movable tray"
- (2) Take off the saddle tray.
P.4-2 "[C] Saddle tray"
- (3) Take off the front rail cover and rear rail cover.
P.4-9 "[M] Front rail cover / Rear rail cover"
- (4) Remove 4 screws, and take off the left lower cover.

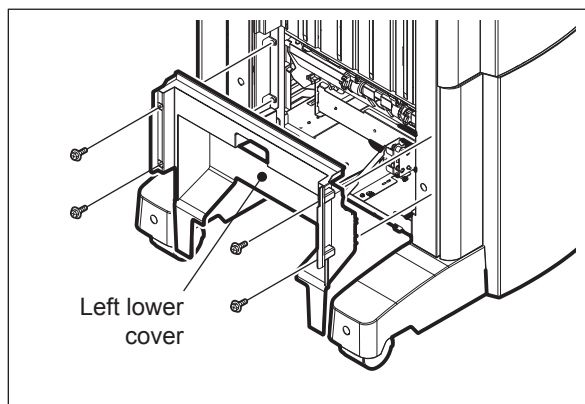


Fig. 4-32

[P] Front foot cover / Rear foot cover

- (1) Remove 1 screw, and then take off the front foot cover by sliding it in the direction of the arrow.

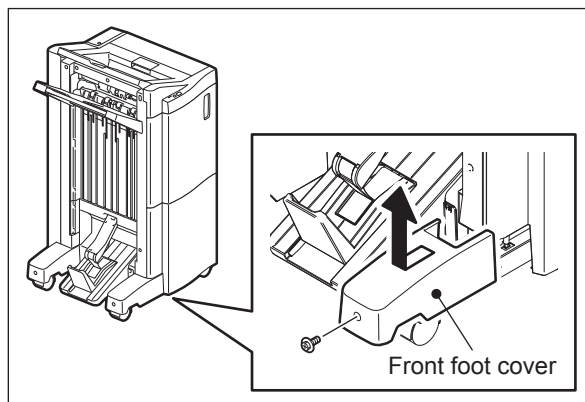


Fig. 4-33

- (2) Remove 1 screw, and then take off the rear foot cover by sliding it in the direction of the arrow.

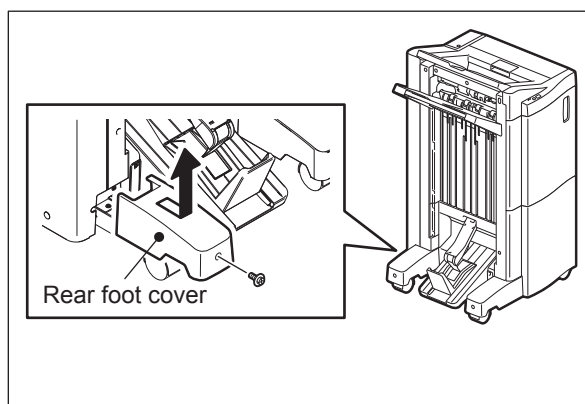


Fig. 4-34

4.2 Units (Finisher section)

[A] Junction box unit

- (1) Take off the right upper cover.
P.4-7 "[J] Right upper cover"
- (2) Take off the relay guide, feeding discharge brush and right cover.
P.4-7 "[K] Relay guide / Feeding discharge brush / Right cover"
- (3) Remove 4 screws of the FIN board bracket.

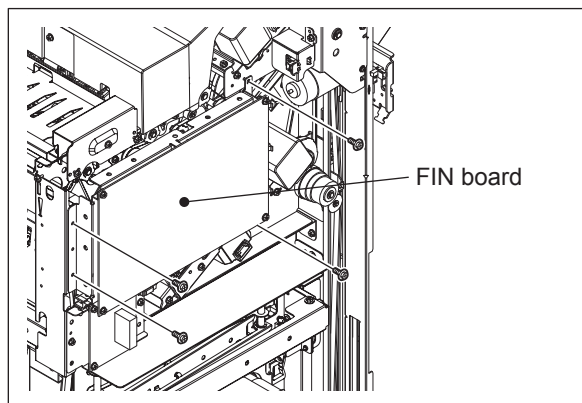


Fig. 4-35

- (4) Release the harness out of 1 clamp, and then disconnect each connector of CN6 and CN8 on the IF board.
- (5) Remove 2 screws of the IF board bracket.

Note:

When installing, screw the ground terminal together with the bracket.

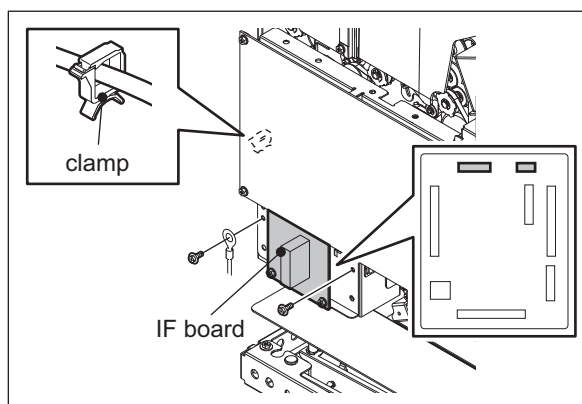


Fig. 4-36

- (6) Take off the 1 spring.
- (7) Remove 1 screw, and then take off the sensor bracket of the connection switch.
- (8) Release the harness out of 2 clamps.

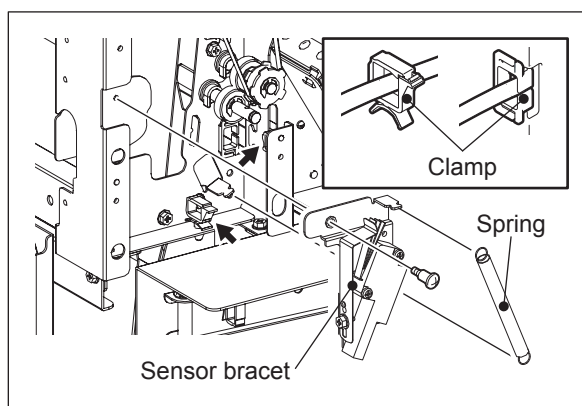


Fig. 4-37

- (9) Open the stationary tray.
- (10) Remove the spring, and then loosen 2 screws to free the belt tension.
- (11) Take off the belt.

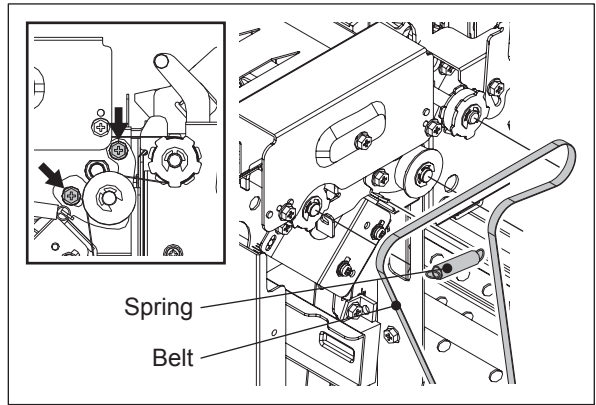


Fig. 4-38

- (12) Disconnect the connector of the front cover switch.

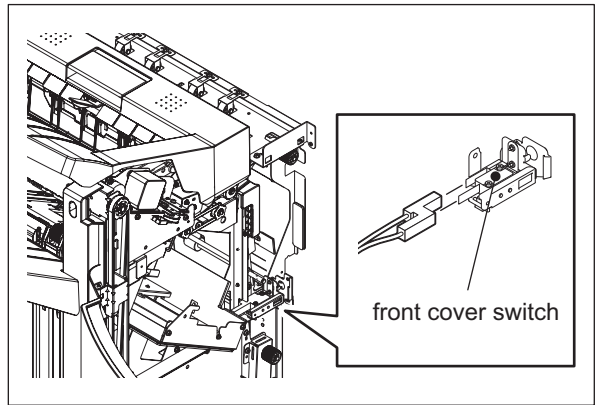


Fig. 4-39

- (13) Remove 6 screws, and then take off the junction box unit by sliding it upward.

Note:

When installing the junction box unit, hang the 2 hooks of the cover on the hooks of the frame.

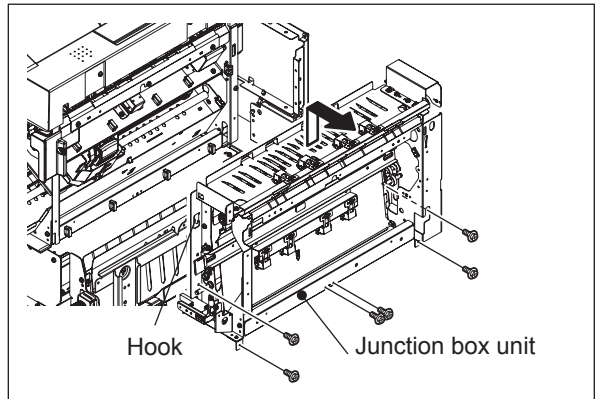


Fig. 4-40

[B] Buffer unit

- (1) Take off the stationary tray cover.
P.4-1 "[A] Stationary tray"
- (2) Take off the junction box unit.
P.4-13 "[A] Junction box unit"
- (3) Take off the front rail cover and rear rail cover.
P.4-9 "[M] Front rail cover / Rear rail cover"
- (4) Remove 2 screws, and then take off the front rail guide.
- (5) Remove 2 screws, and then take off the rear rail guide.

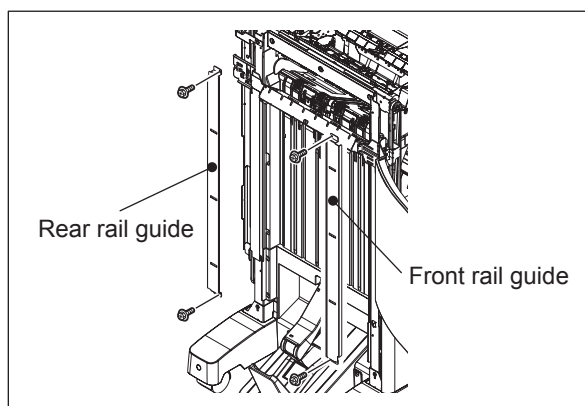


Fig. 4-41

- (6) Release the harness leading from other units from 3 clamps.

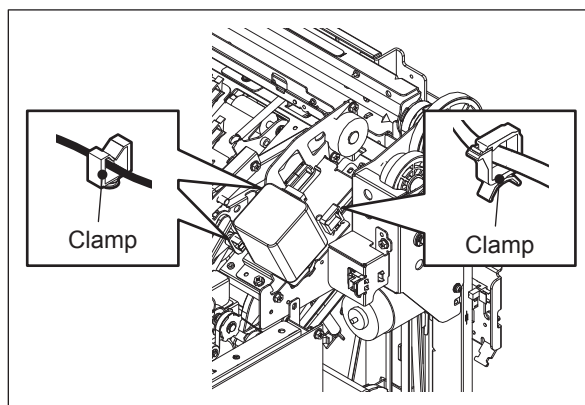


Fig. 4-42

- (7) Release the harness out of 2 clamps, and then disconnect the connector of the entrance motor.

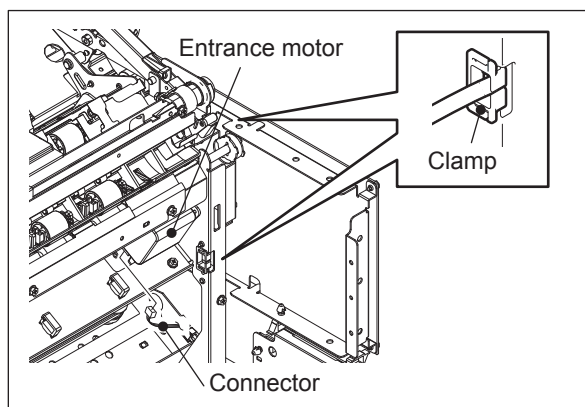


Fig. 4-43

- (8) Release the harness out of 5 clamps, and then disconnect each connector of CN3, CN4, CN5, CN6, CN8, CN10 and CN12 on the FIN board.
- (9) Disconnect the relay connector.

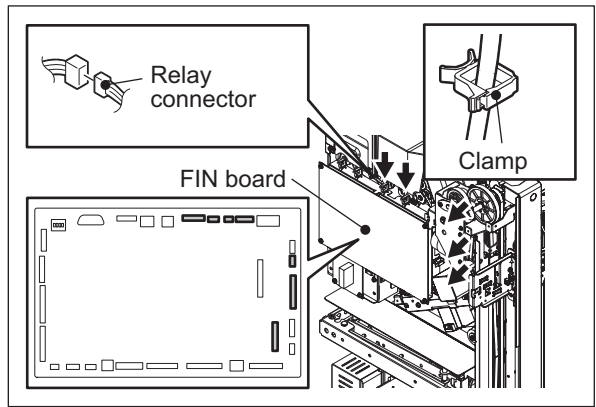


Fig. 4-44

- (10) Remove 4 screws, and then take off the buffer unit.

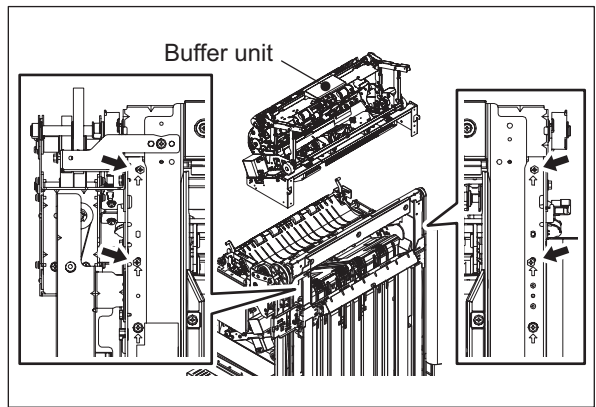


Fig. 4-45

Note:

When the buffer unit has been taken off, place the unit as shown in the figure in order not to damage the buffer guide or the paper pusher plate.

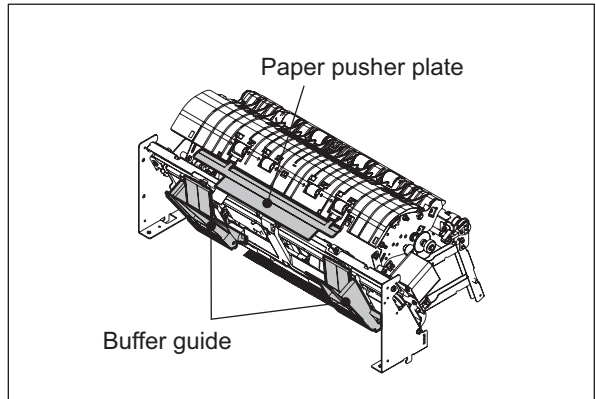


Fig. 4-46

[C] Buffer unit-1

- (1) Take off the rear cover.
P.4-6 "[G] Rear cover"
- (2) Take off the control panel unit.
P.4-3 "[D] Control panel unit"
- (3) Take off the stationary tray.
P.4-1 "[A] Stationary tray"
- (4) Release the harness out of 5 clamps, and then disconnect each connector of CN3, CN4, CN5, CN6, CN8 and CN10 on the FIN board.
- (5) Disconnect the relay connector.

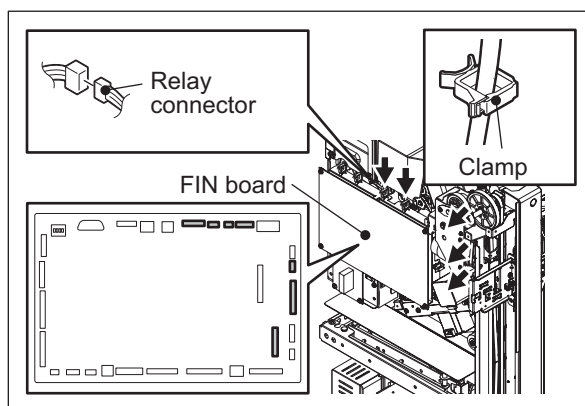


Fig. 4-47

- (6) Disconnect the connector of the buffer tray guide motor.

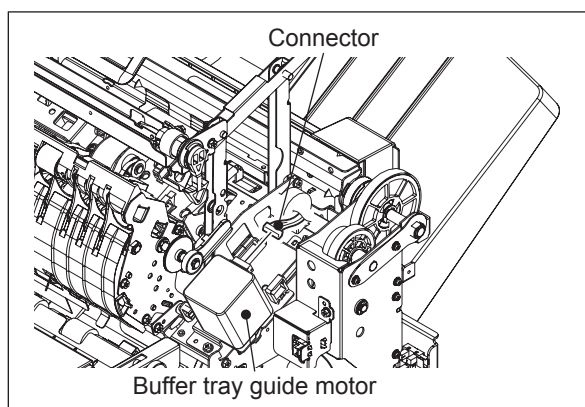


Fig. 4-48

- (7) Release the harness leading from other units from 3 clamps.

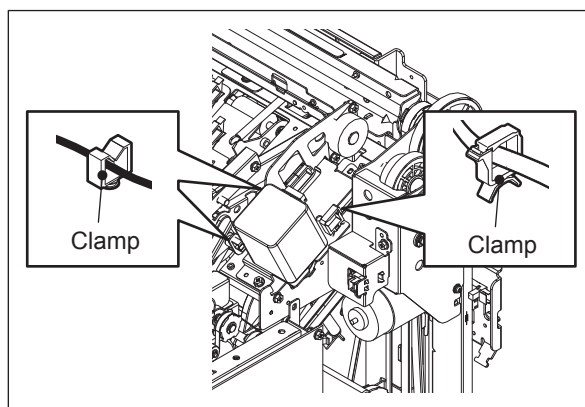


Fig. 4-49

- (8) Release the harness out of 5 clamps, and then disconnect the relay connector of the paper holding arm motor.

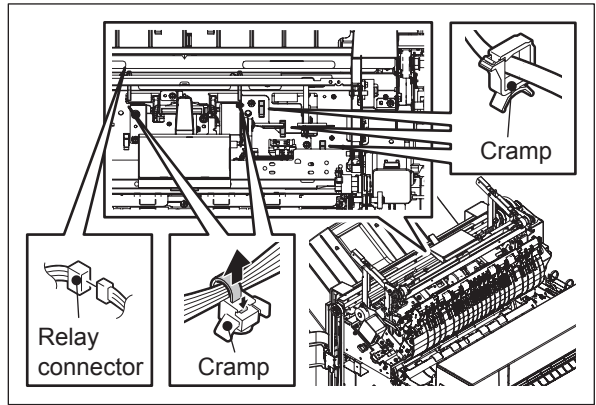


Fig. 4-50

- (9) Take off the belt of the buffer roller drive motor.

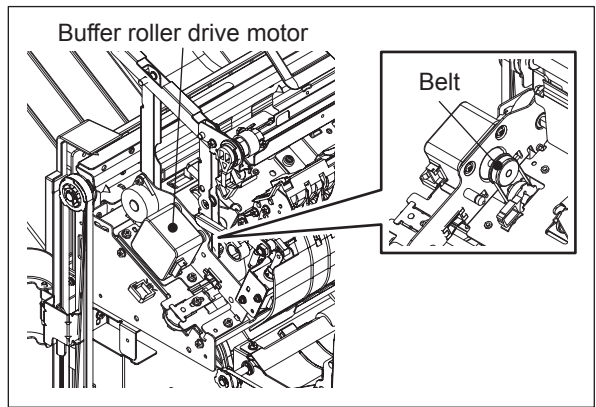


Fig. 4-51

- (10) Disconnect the connector of the buffer roller drive motor and release the harness out of the clamp.

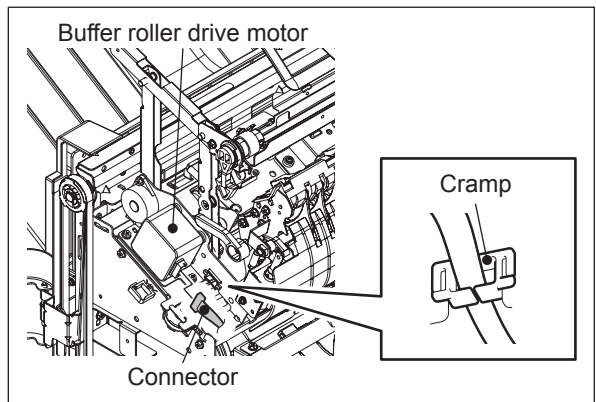


Fig. 4-52

- (11) Loosen 1 screw, and then tighten the screw by pushing the plate in the direction of the arrow. (Loosen the belt tension.)

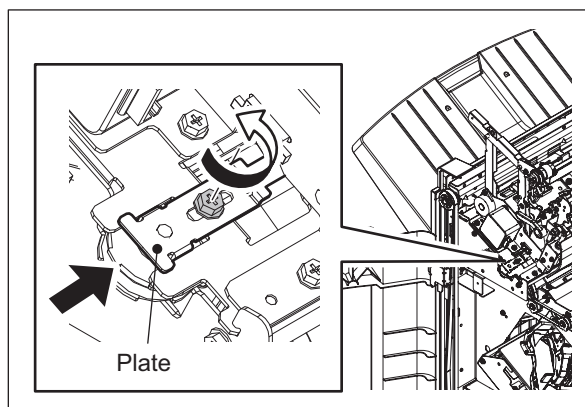


Fig. 4-53

- (12) Remove 5 screws, and then release the harness out of the hole of the frame to take off the buffer unit-1.

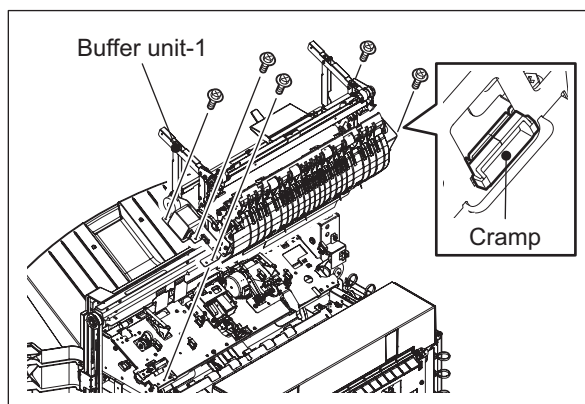


Fig. 4-54

[D] Finishing tray unit

- (1) Take off the grate-shaped guide.
 P.4-10 "[N] Grate-shaped guide"
- (2) Take off the buffer unit.
 P.4-15 "[B] Buffer unit"
- (3) Release the harness out of 2 clamps, and then disconnect each connector of CN16 and CN17 on the FIN board.

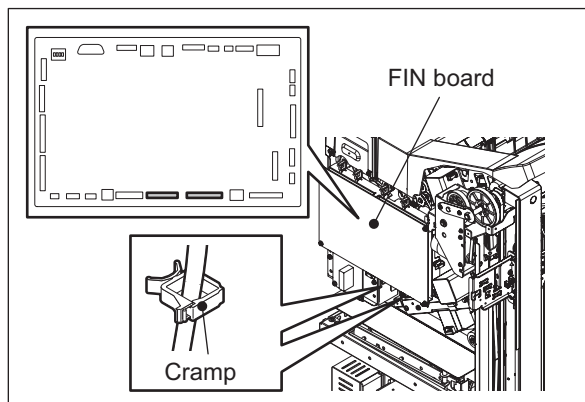


Fig. 4-55

- (4) Remove 1 clip on the front side of the stack transport roller-2. Then remove the bushing.

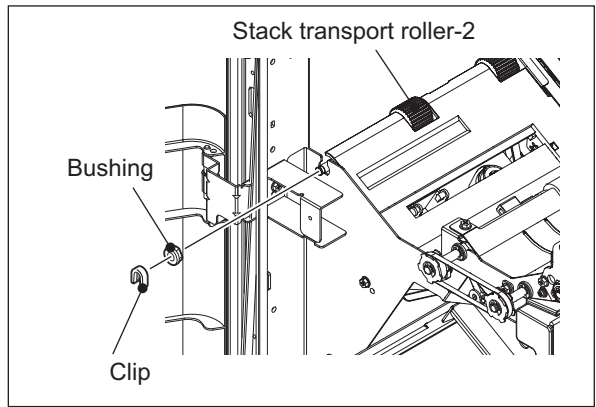


Fig. 4-56

- (5) Remove the spring, and then loosen 2 screws to free the belt tension.

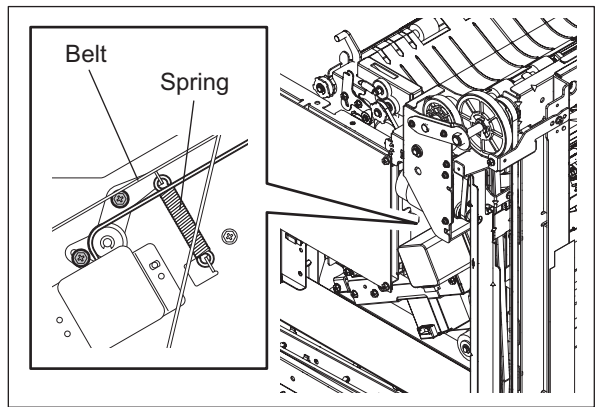


Fig. 4-57

- (6) Remove 3 clips on the rear side of the stack transport roller-2. Then remove the transport roller pulley-1, transport roller pulley -2, 2 pins, bushing and belt.

Notes:

- Be sure not to lose the fixing pins for the pulleys.
- Be sure not to lose the belt.

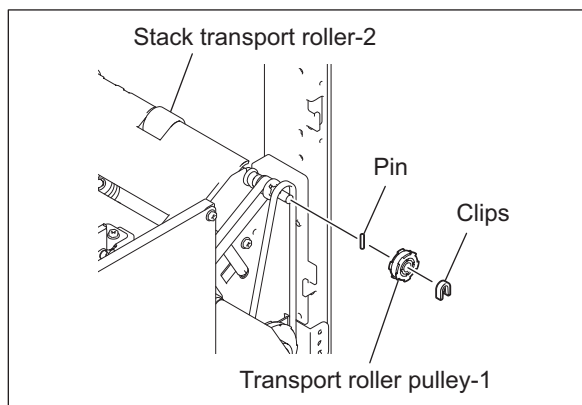


Fig. 4-58

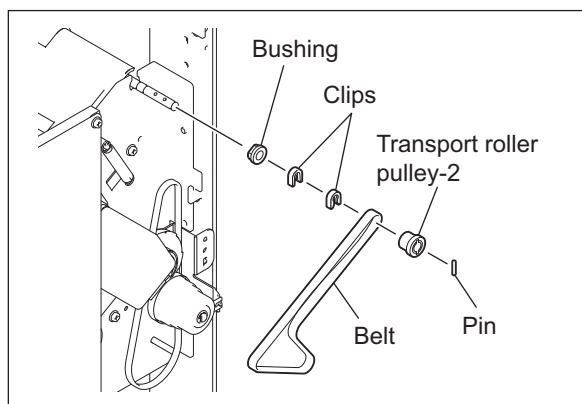


Fig. 4-59

- (7) Remove 2 clips on the rear side of the stack transport roller-1. Then remove the transport roller pulley -3, pin and bushing.

Note:

Be sure not to lose the fixing pins for the pulleys.

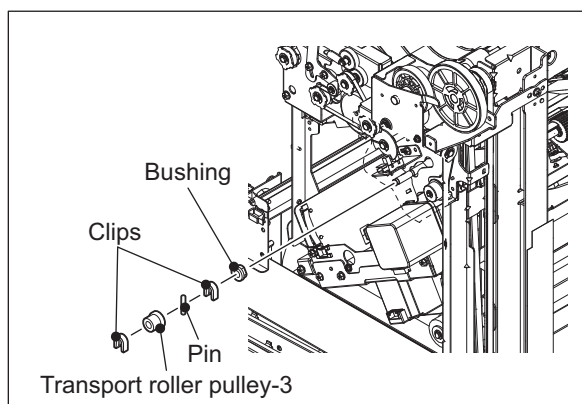


Fig. 4-60

- (8) Move the stapler to the staple replacing position (the first position from the front).
- (9) Remove 4 screws and take off the stack transport roller-2 in the finishing tray unit from the frame. Move the stack transport roller-1 as shown in the figure, and then lift the front side of the finishing tray unit to take it off.

Note:

Be sure not to deform the finishing tray guide.

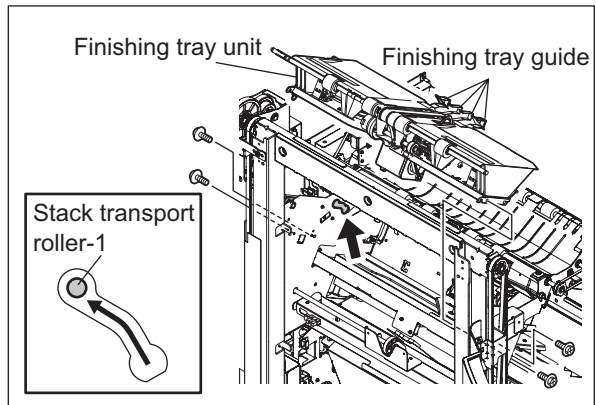


Fig. 4-61

[E] Stapler

- (1) Open the front cover (MJ-1103) or the front upper cover (MJ-1104).
- (2) Move the stapler to the staple replacing position (the first position from the front).
- (3) Release the clamp to disconnect the flexible cable out of the connector.

Note:

When installing the stapler, place the flexible cable on the protrusion of the stapler and fix it with the clamp.

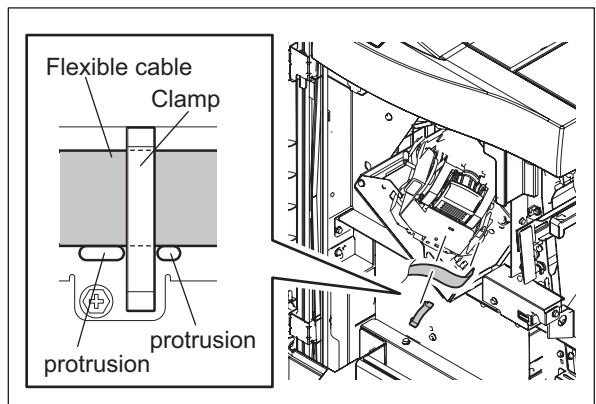


Fig. 4-62

- (4) Remove 1 screw, and then take off the staple carrier.

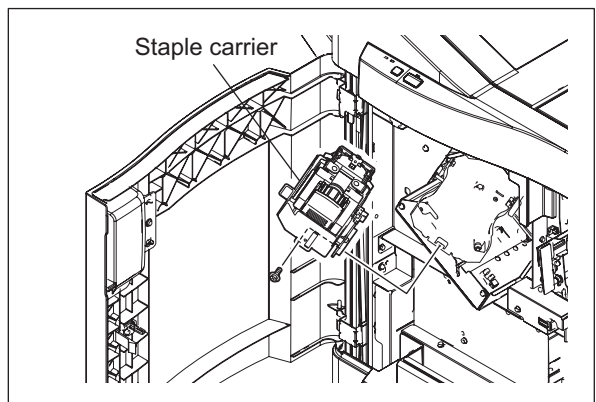


Fig. 4-63

- (5) Remove 2 screws, and then disconnect 2 connectors of the stapler to take off the stapler.

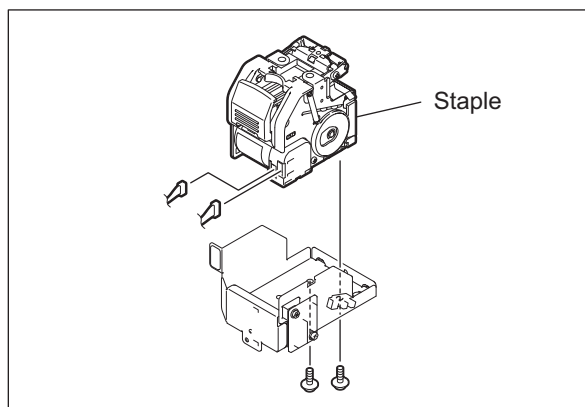


Fig. 4-64

[F] Movable tray shift motor unit

- (1) Take off the rear cover.
 P.4-6 "[G] Rear cover"
- (2) Move the movable tray shift frame to the middle position. If the movable tray shift frame needs to be lowered, push the gear of the movable tray shift motor unit in the direction of the arrow to unlock the frame. (Be sure to hold the movable tray gear frame with your hands because it may fall when the gear is pushed.)

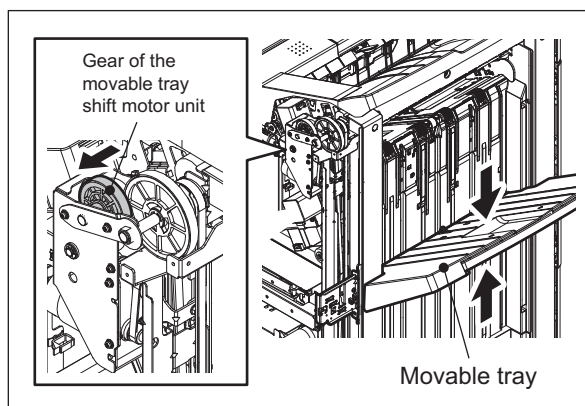


Fig. 4-65

- (3) Remove 2 screws, and then take off the sensor rail.

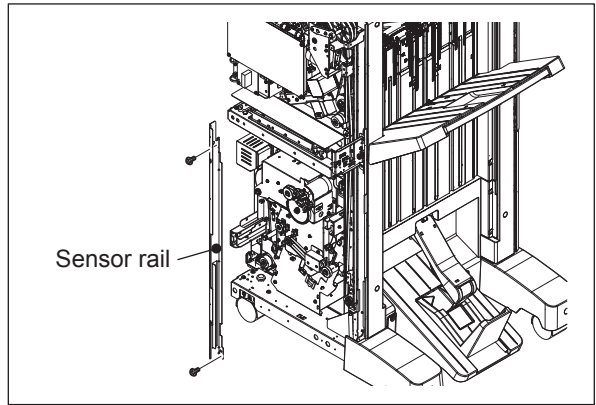


Fig. 4-66

Note:

When installing the movable tray drive unit, fix it at the position where the gap between the center mark of the scale on the sensor rail and the edge of the movable tray position-a sensor is from 0 to 1 mm. Be sure to adjust the installation position by shifting the movable tray shift frame and measure the positions at the upper and lower measuring points on the sensor rail as shown in the figure.

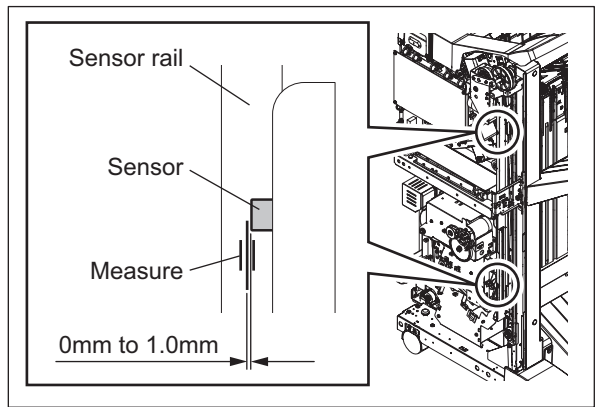


Fig. 4-67

- (4) Release the harness out of 3 clamps, and then disconnect the connector of CN15 on the FIN board.
- (5) Disconnect the connector of the movable tray shift motor.

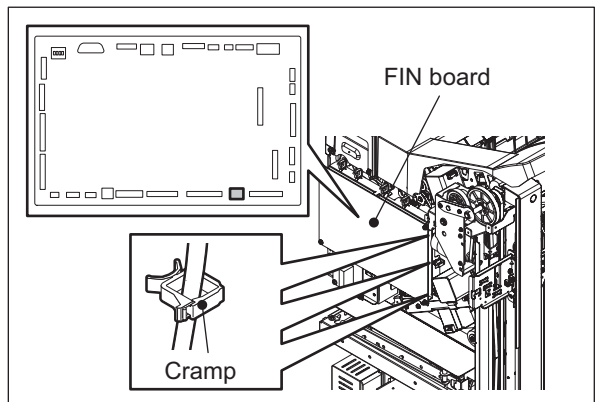


Fig. 4-68

- (6) Remove 2 screws, and then take off the bracket and bushing.

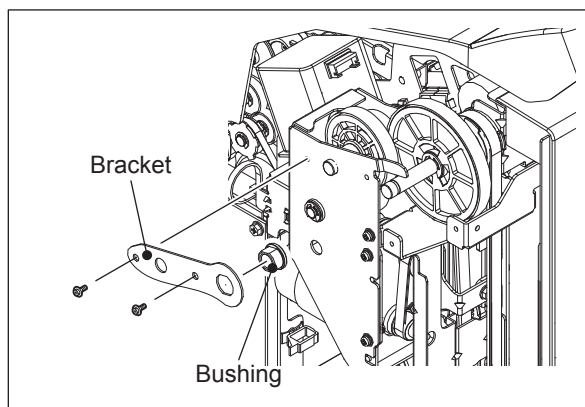


Fig. 4-69

- (7) Remove 2 screws, and then take off the movable tray shift motor unit.

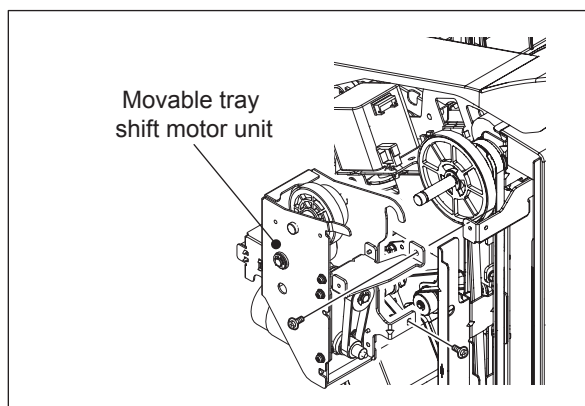



Fig. 4-70

4.3 Units (Saddle section: MJ-1104)

[A] Saddle unit

- (1) Take off the front lower cover.
 P.4-4 "[E] Front cover / Front upper cover / Front lower cover"
- (2) Remove 3 screws, and then take off the SDL board cover.

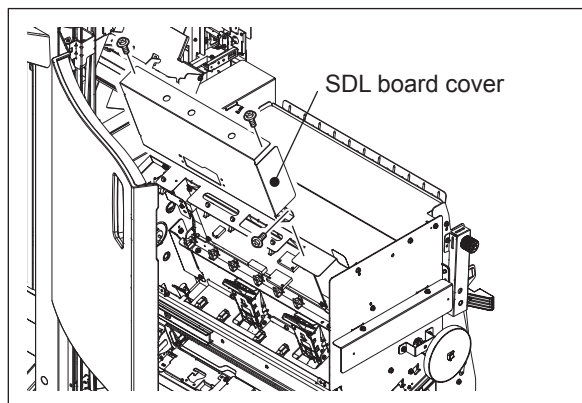


Fig. 4-71

- (3) Release the harness out of 3 clamps, and then disconnect each connector of CN10 and CN13 on the SDL board.

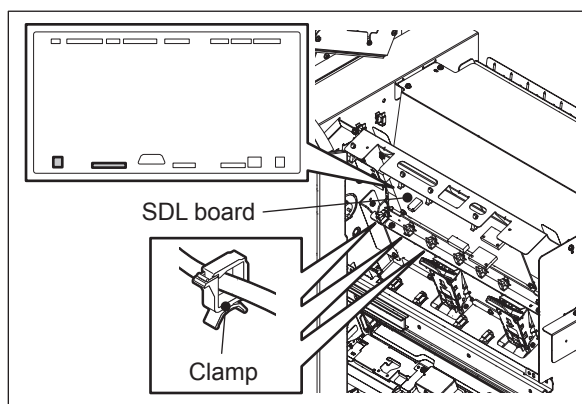


Fig. 4-72

- (4) Place a table beneath the pulled-out saddle unit to steady it.

Note:

Store (flip up) the saddle unit support before placing a table beneath the unit.

- (5) Remove 8 screws and store the right and left rails.

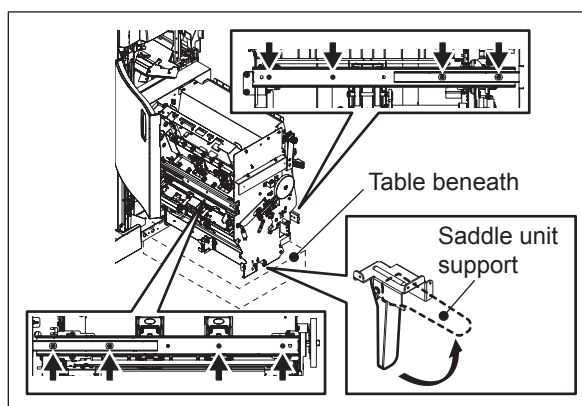


Fig. 4-73

- (6) Remove one clip and then remove the shaft of saddle harness frame.
- (7) Take off the saddle unit.

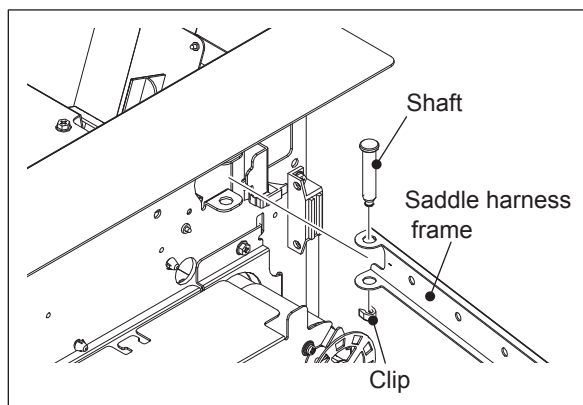


Fig. 4-74

Notes:

- Hold the part of the saddle unit as shown in the figure during disassembling.
- When the saddle unit was taken off, place the unit on a flat place with its support stored (flipped up).

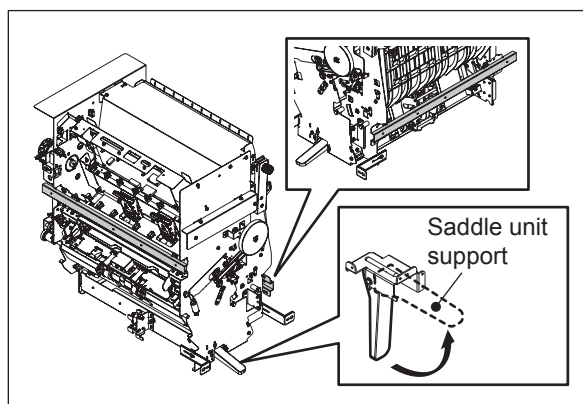


Fig. 4-75

Notes:

When the saddle unit was installed, take off the saddle cover to check if the joint section of the pivot on the Finisher side and the plate on the saddle unit side is smooth.

1. Take off the saddle tray.
P.4-2 "[C] Saddle tray"
2. Open and close the saddle unit to check if the joint section of the pivot on the Finisher side and the plate on the saddle unit side is smooth, and also if the plate on the Finisher side contacts with the plate on the saddle unit side at 4 positions.
3. If not, loosen 2 screws of the Finisher side bracket and 1 screw on the saddle unit side to determine the proper positions while the saddle unit is left closed.

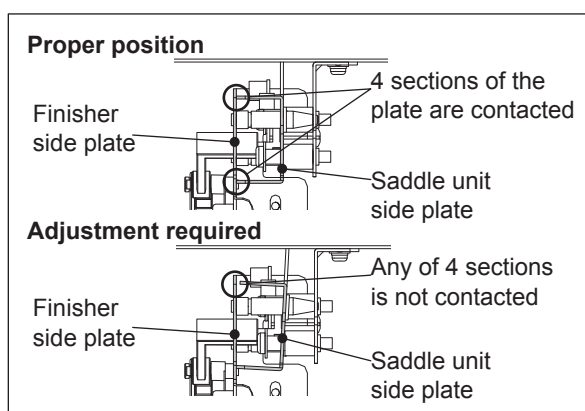


Fig. 4-76

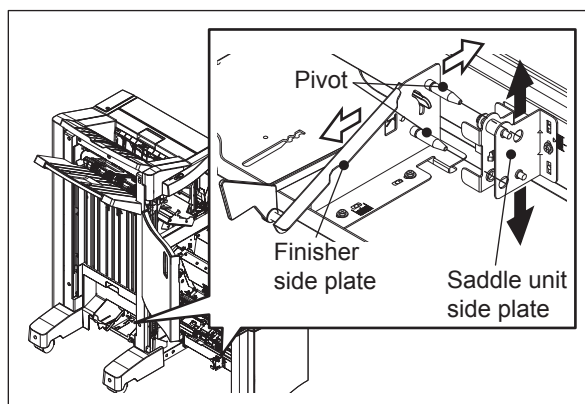


Fig. 4-77

[B] Switchback unit

- (1) Take off the saddle unit.
P.4-26 "[A] Saddle unit"
- (2) Remove 4 screws, and then take off the upper safety cover.

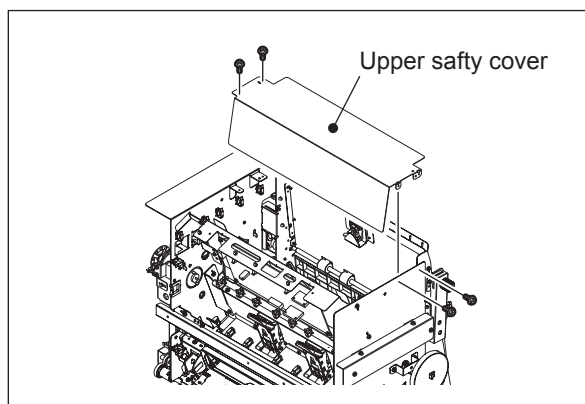


Fig. 4-78

- (3) Release the harness out of 9 clamps, and then disconnect each connector of CN8 and CN20 on the SDL board.

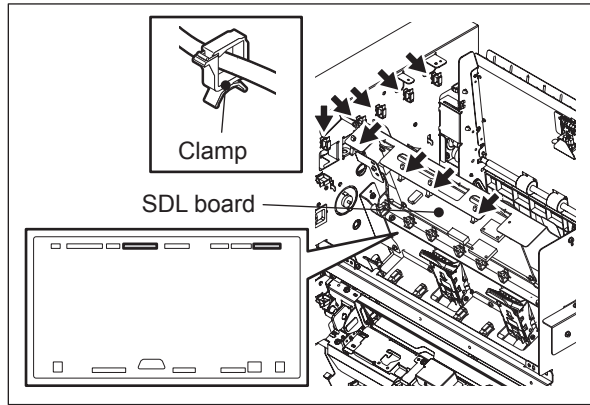


Fig. 4-79

- (4) Remove 4 screws, and then take off the support bracket.
- (5) Remove 4 screws, and then take off the front bracket.
- (6) Remove 4 screws, and then take off the rear bracket.
- (7) Remove 4 screws, and then take off the switchback unit.

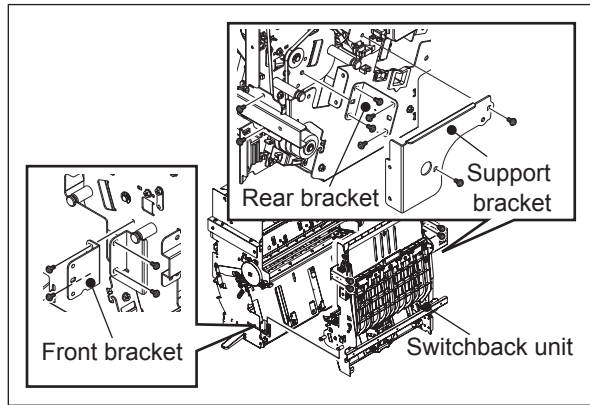


Fig. 4-80

[C] Paper holding unit

- (1) Take off the front lower cover.
 P.4-4 "[E] Front cover / Front upper cover / Front lower cover"
- (2) Remove 2 screws, and then take off the paper holding unit.

Notes:

- Do not lose the clutch shaft bushing.
- When installing, engage the clutch shaft bushing with the frame of the paper holding unit securely.

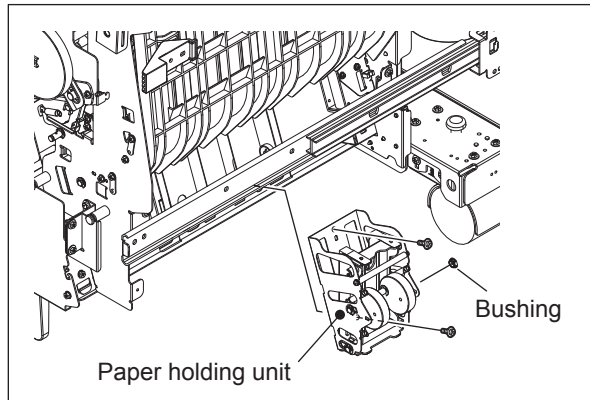


Fig. 4-81

[D] Side alignment unit

- (1) Take off the switchback unit.
P.4-28 "[B] Switchback unit"
- (2) Release the harness out of 6 clamps, and then disconnect the connector of CN5 on the SDL board.

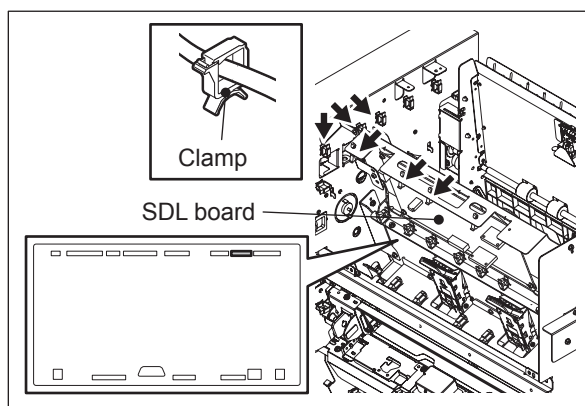


Fig. 4-82

- (3) Move each alignment plate to both edges correspondingly.
- (4) Remove 4 screws and take off the side alignment unit by lifting it upward.

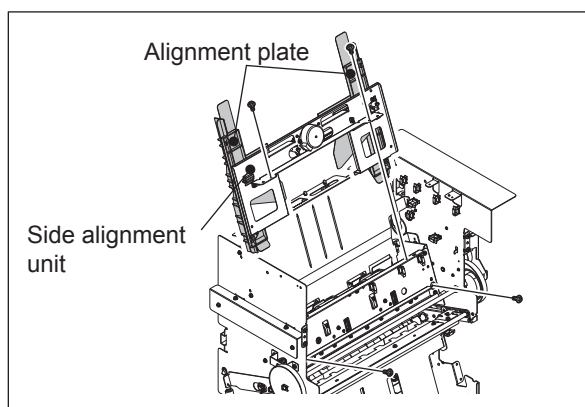


Fig. 4-83

[E] Saddle stapler unit

- (1) Take off the switchback unit.
P.4-28 "[B] Switchback unit"
- (2) Take off the side alignment unit.
P.4-30 "[D] Side alignment unit"
- (3) Disconnect the connector from the saddle stapler clinch units located at the front and rear sides of the upper stapler frame assembly. Then release the harness from 3 clamps.

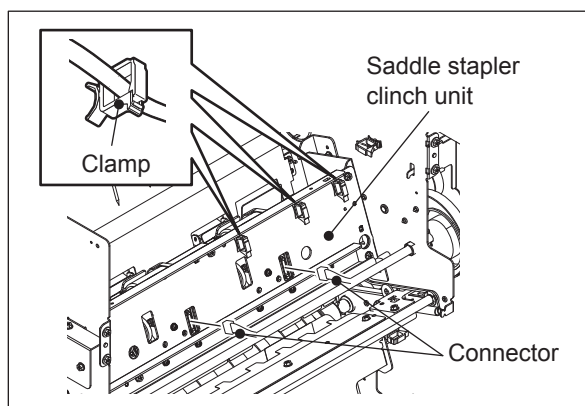


Fig. 4-84

- (4) Remove 4 screws and take off the upper stapler frame assembly.

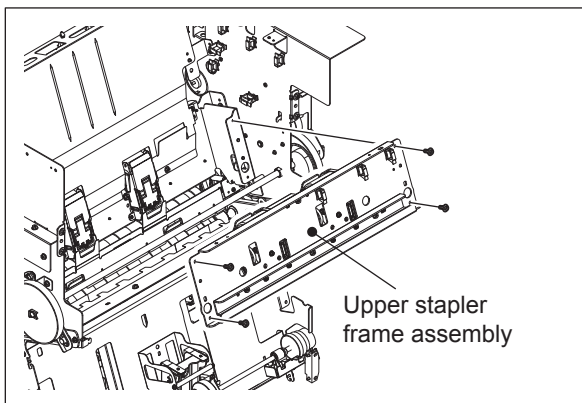


Fig. 4-85

Notes:

When installing, adjust the position of each saddle stapler clinch unit using an exclusive jig following the procedure below.

6LB296160 JIG-STAPLE-SDL

1. Install the jig on the hole of the lower stapler frame.

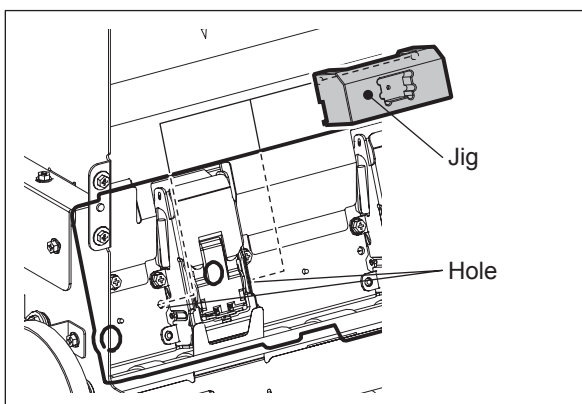


Fig. 4-86

2. Loosen 3 screws fixing the front stapler clinch unit.
3. Rotate the gear of the front stapler clinch unit in the direction of the arrow to pull out the clinch. Keep rotating the gear until the clinch is inserted all the way into the hole of the jig.
4. Tighten 3 screws in the order shown in the figure.
5. Return the clinch of the front stapler clinch unit to its original position and then remove the jig.
6. Adjust the position of the rear saddle stapler clinch unit following the same procedure.

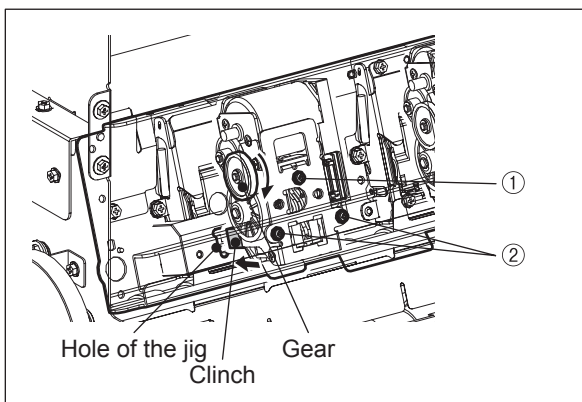


Fig. 4-87

- (5) Remove 3 screws and take off the front saddle stapler clinch unit.
- (6) Remove 3 screws and take off the rear saddle stapler clinch unit.

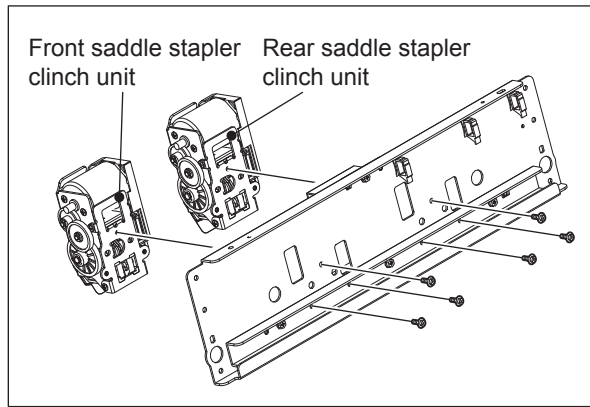


Fig. 4-88

- (7) Disconnect each connector of the front and saddle stapler drive units from the SDL board side.
- (8) Remove 2 screws and take off the front saddle stapler drive unit.
- (9) Remove 2 screws and take off the rear saddle stapler drive unit.

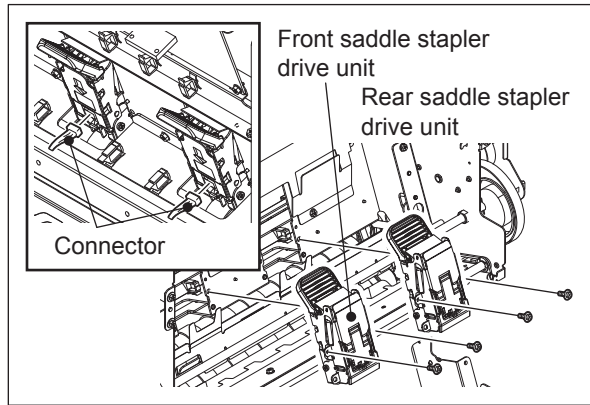


Fig. 4-89

- (10) Remove the fold plate.

Note:

When replacing the fold plate (ASYS-PLT-FOLD-RLR-SDL), be careful not to damage the mylar.

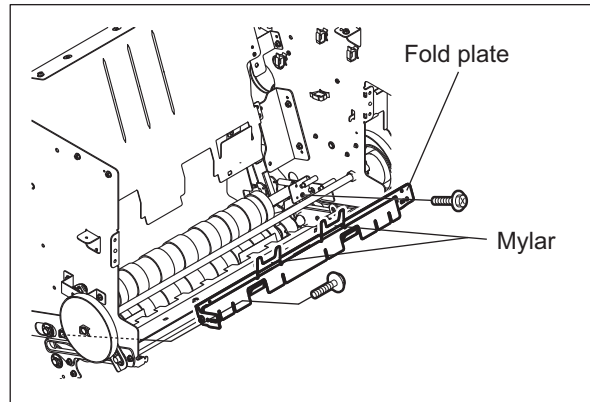


Fig. 4-90

[F] Folding drive unit

- (1) Take off the saddle unit.
P.4-26 "[A] Saddle unit"
- (2) Release the harness out of 11 clamps, and then disconnect each connector of CN11 and CN14 on the SDL board.

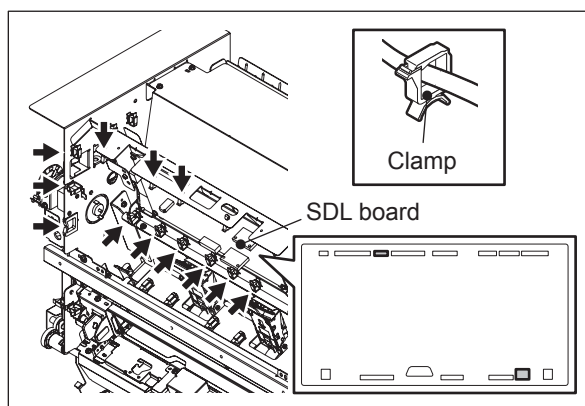


Fig. 4-91

- (3) Disconnect the connector of the folding blade home position sensor. Break binding wire at 4 positions and release the harness from 10 clamps of the folding drive unit.

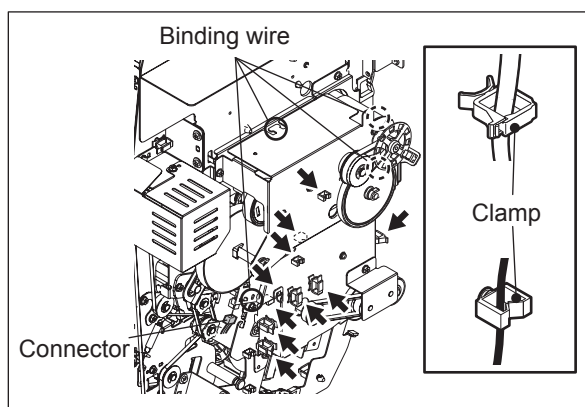


Fig. 4-92

- (4) Remove one clip and then remove the bushing.

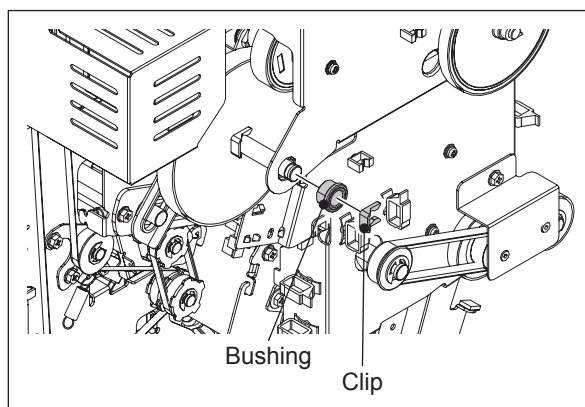


Fig. 4-93

- (5) Remove one clip and then remove the pulley and pin.

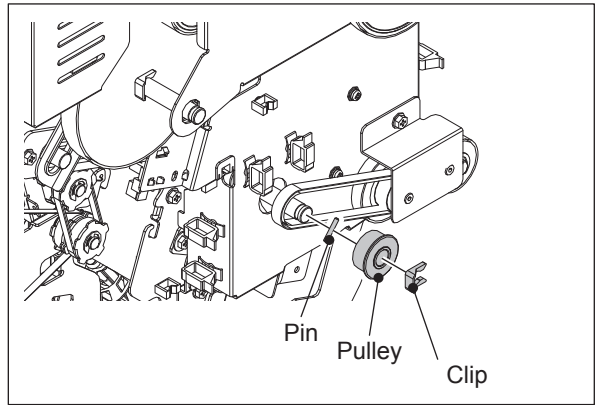


Fig. 4-94

- (6) Take off the spring. Remove one screw, and then take off the paper holding unit
- (7) Remove 2 screws, and then take off the folding drive unit.

Note:

When installing, hang the 2 hooks of the folding drive unit on the holes of frame.

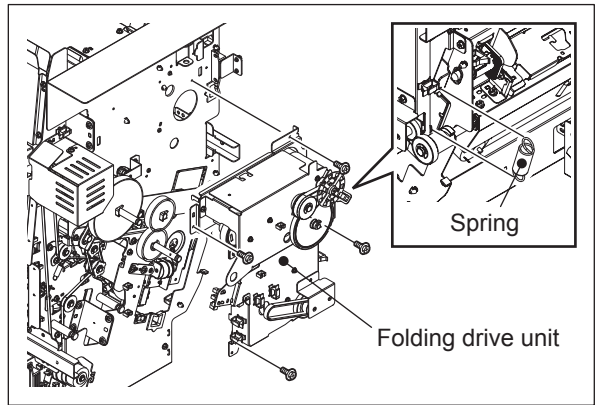


Fig. 4-95

Note:

The gear bracket of the folding drive unit is installed to determine the positioning between the gears of the folding drive unit and the additional folding unit. Before taking off the units, mark the position on the scale of the frame where the mark of the bracket points so that you can install them at the same positions.

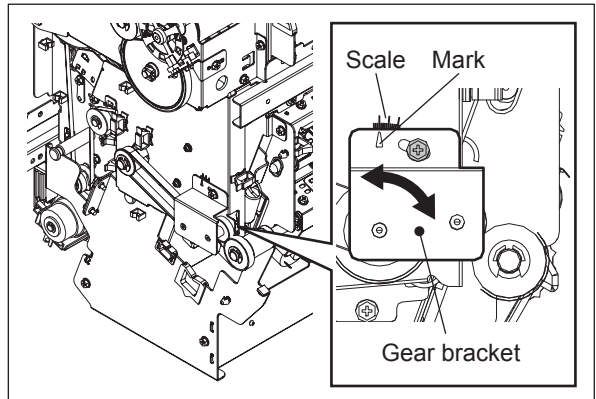


Fig. 4-96

[G] EFS unit

- (1) Take off the folding drive unit.
P.4-33 "[F] Folding drive unit"
- (2) Release the harness out of 9 clamps, and then disconnect the connector of CN18 on the SDL board.

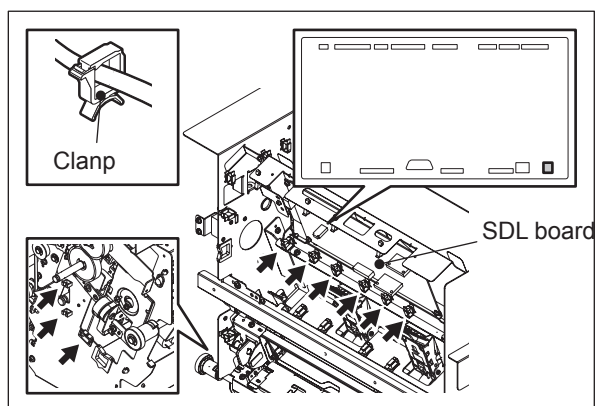


Fig. 4-97

- (3) Disconnect each connector of CN4, CN15 and CN19 on the SDL board. Break binding wire at one position and release the harness from 7 clamps.

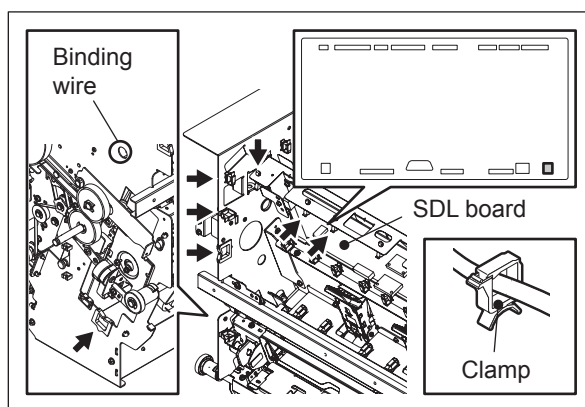


Fig. 4-98

- (4) Release the harness out of 3 clamps. Disconnect the connector of the stacker home position sensor. Disconnect the relay connector of the stacker motor. Disconnect the relay connector of the saddle tray paper detection sensor.

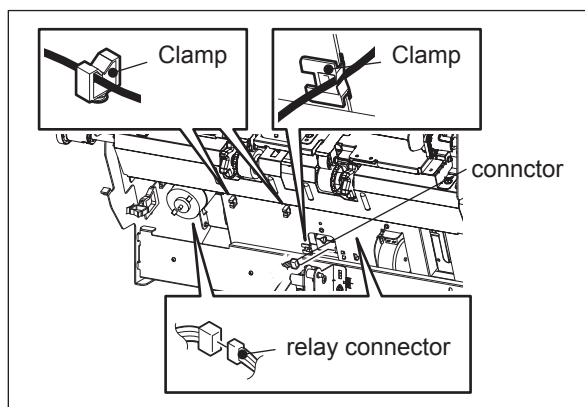


Fig. 4-99

- (5) Take off the spring.
- (6) Remove 2 screws and take off the front bracket.
- (7) Remove 2 screws and take off the rear bracket.

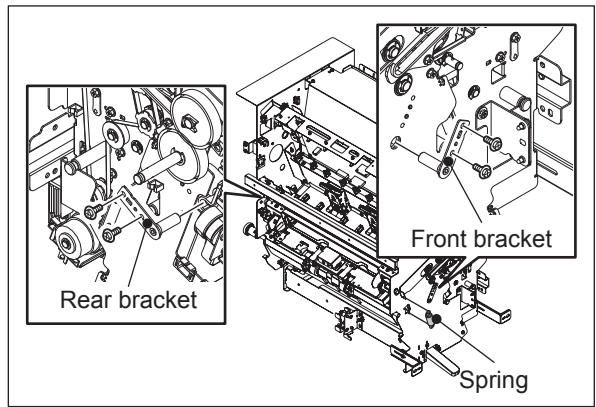


Fig. 4-100

- (8) Take off the EFS unit while pulling the jam access lever.

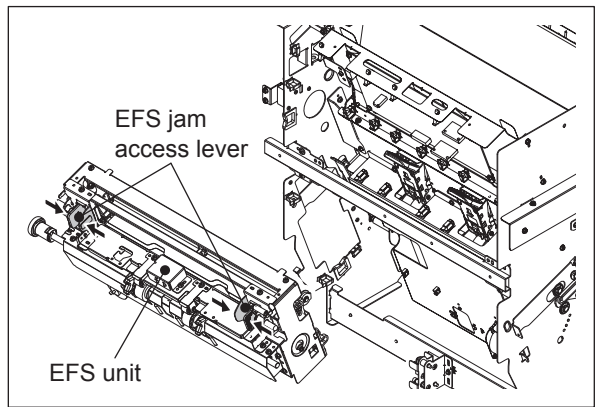


Fig. 4-101

[H] Stacker unit

- (1) Take off the switchback unit.
P.4-28 "[B] Switchback unit"
- (2) Take off the folding drive unit.
P.4-33 "[F] Folding drive unit"
- (3) Take off the EFS unit.
P.4-35 "[G] EFS unit"
- (4) Remove 2 screws, and then take off the stacker unit by sliding it upward.

Notes:

- When installing, hang the 2 hooks of the stacker unit on the lower folding roller.
- When installing, hang the 2 hooks of the stacker unit on the holes of frame.

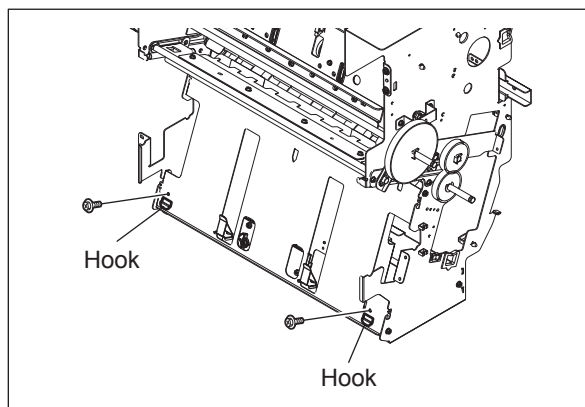


Fig. 4-102

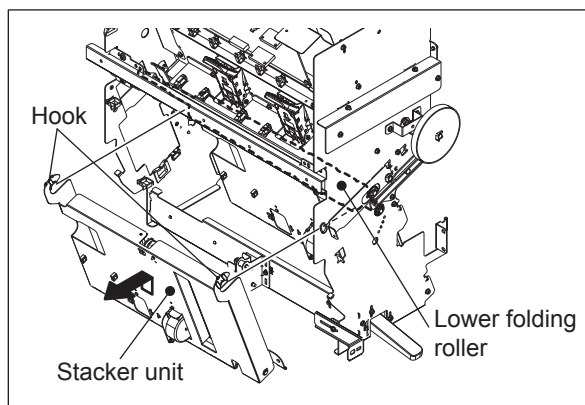


Fig. 4-103

4.4 Rollers (Finisher section)

[A] Feeding roller

- (1) Take off the right upper cover.
P.4-7 "[J] Right upper cover"
- (2) Take off the relay guide, feeding discharge brush and right cover.
P.4-7 "[K] Relay guide / Feeding discharge brush / Right cover"
- (3) Remove 4 screws of the FIN board bracket.

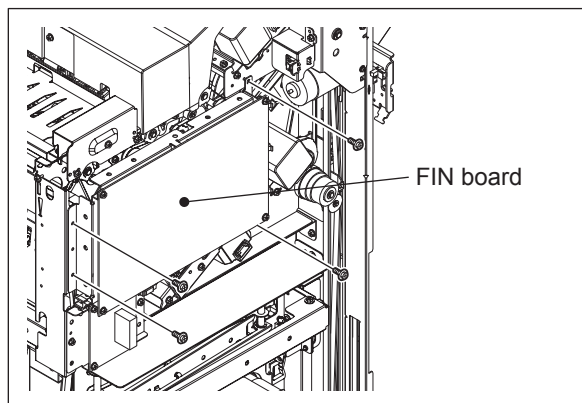


Fig. 4-104

- (4) Release the harness out of 1 clamp, and then disconnect each connector of CN6 and CN8 on the I/F board.
- (5) Remove 2 screws of the I/F board bracket.

Note:

When installing, screw the ground terminal together with the bracket.

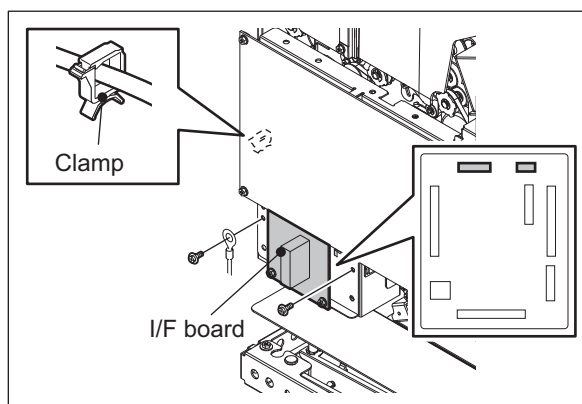


Fig. 4-105

- (6) Remove 2 screws, and then take off the front bracket.
- (7) Remove 2 screws, and then take off the rear bracket.
- (8) Remove 2 screws, and then take off the junction box upper transport guide.

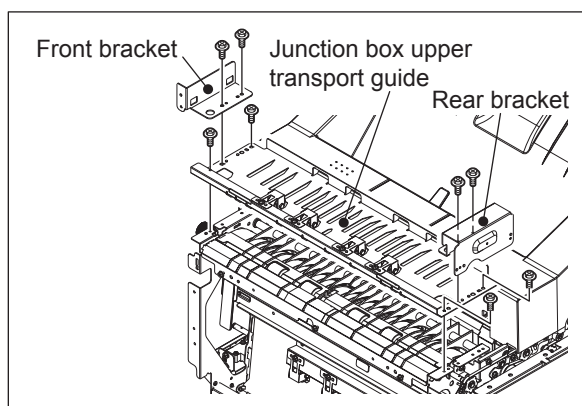


Fig. 4-106

- (9) Open the stationary tray.
- (10) Remove the spring, and then loosen 2 screws to free the belt tension.
- (11) Take off the belt.

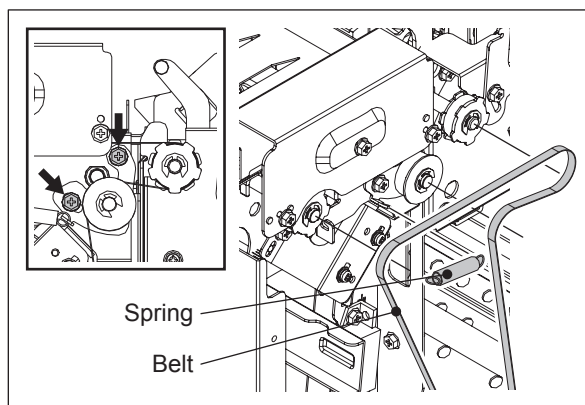


Fig. 4-107

- (12) Remove one screw, and then sensor bracket of feeding sensor.

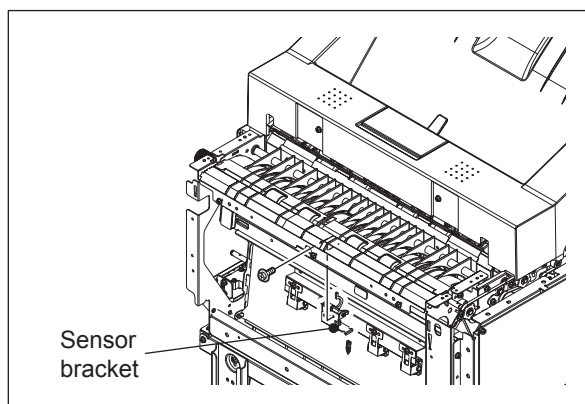


Fig. 4-108

- (13) Push the jam access lever of the junction box to the right side, and then open the transport guide.

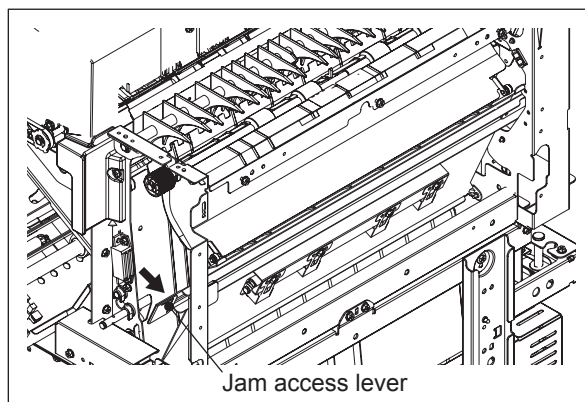


Fig. 4-109

- (14) Remove one E-ring, and then take off the knob and pin.
- (15) Remove one clip, and then take off the bushing.

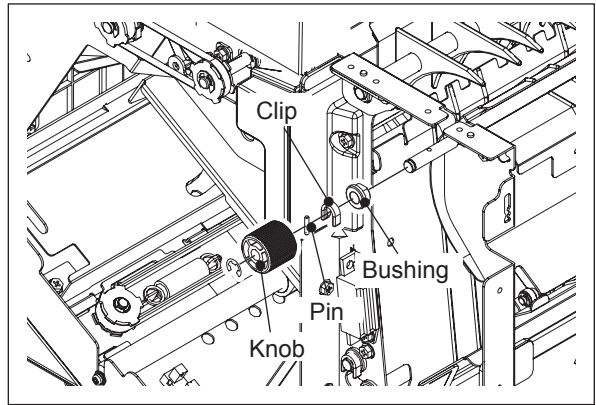


Fig. 4-110

- (16) Remove one E-ring, and then take off the pulley and pin.
- (17) Remove one clip, and then take off the bushing. Take off the feeding roller and transport guide.

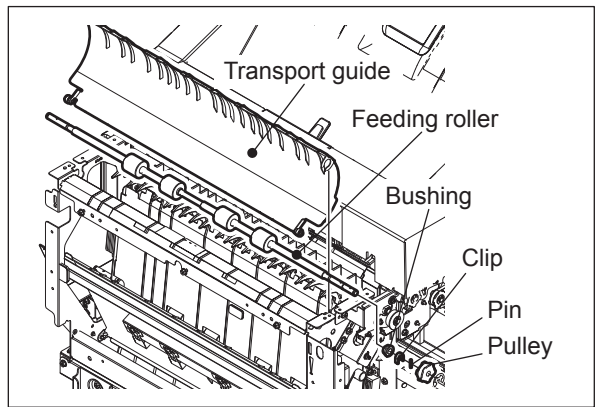



Fig. 4-111

[B] Junction roller

- (1) Take off the junction box unit.
 P.4-13 "[A] Junction box unit"
- (2) Remove one E-ring, and then take off the gear and pin.
- (3) Remove one clip, and then take off the bushing.

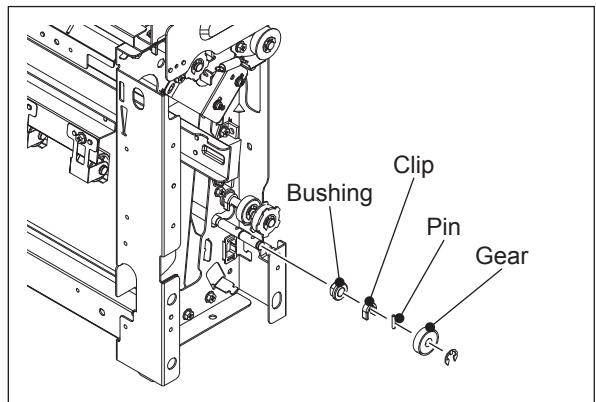


Fig. 4-112

- (4) Remove one clip, and then take off the bushing and junction roller.

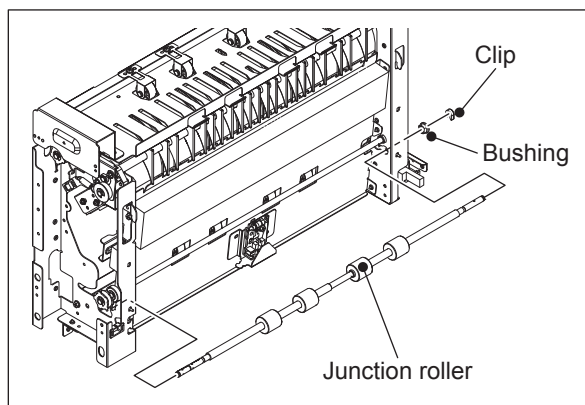


Fig. 4-113

[C] Paddle-1 / Paddle-2 / Paddle-3 / Catching pad / Paddle-4 / Paddle-5 / Paddle-6

- (1) Take off the stationary tray.
 P.4-1 "[A] Stationary tray"
- (2) Take off the Junction box unit.
 P.4-13 "[A] Junction box unit"
- (3) Close the buffer unit-1 halfway and leave it.
 Then remove 1 screw.

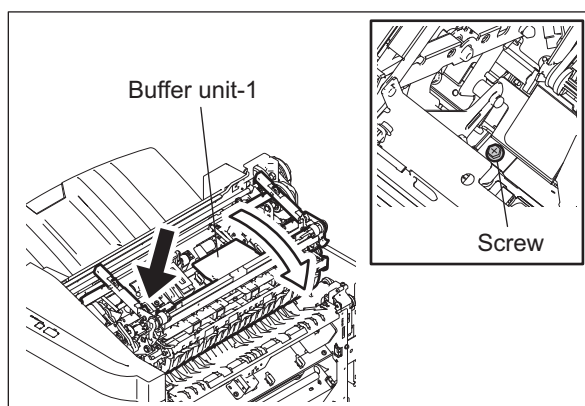


Fig. 4-114

- (4) Remove 3 screws, and then take off the transport guide.

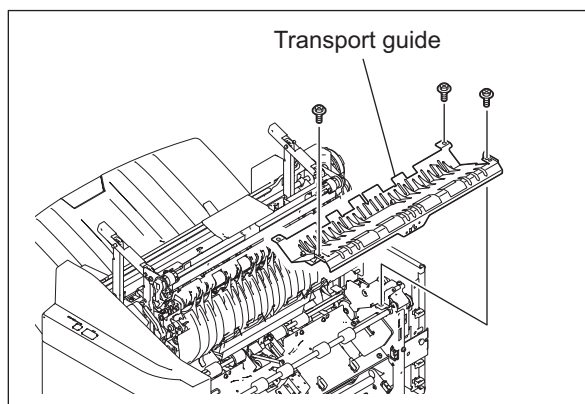


Fig. 4-115

- (5) Take off the arm by pulling it out upward.

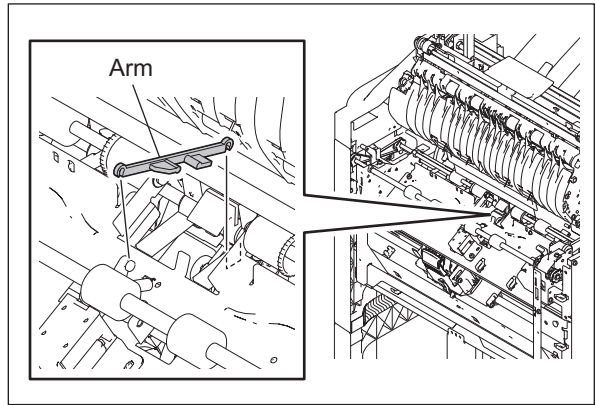


Fig. 4-116

Note:

When installing, be sure that the ring of the arm comes downside.

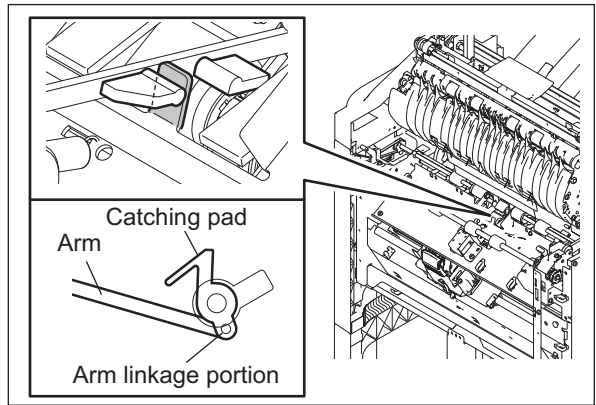


Fig. 4-117

- (6) Move each of the buffer guides to each side.

Note:

If the shutter is raised, move the frame downward.

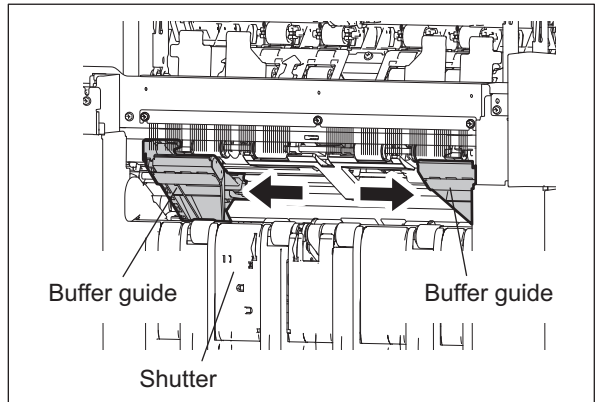


Fig. 4-118

- (7) Move the front and rear alignment plates to the center, and then pull them out upward to take them off.

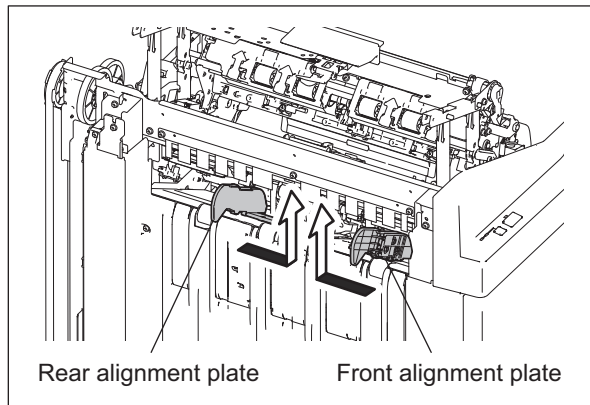


Fig. 4-119

- (8) Remove 4 screws of the front and rear pull-in guides.

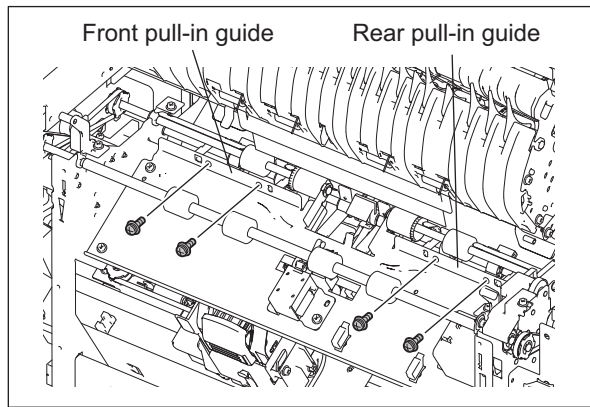


Fig. 4-120

Notes:

When replacing the front and rear pull-in guides, adjust the position with a jig. Install them based on adjustment area B of the jig so that the gap between the front and rear finishing tray covers is more than adjustment area A and less than C.

6LB10056000 JIG-GID-PDL-2

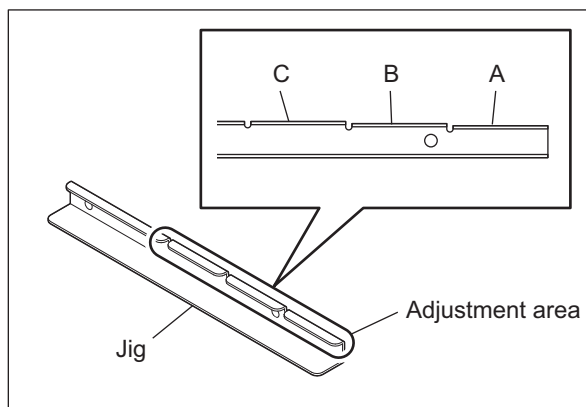


Fig. 4-121

1. Close the buffer unit 1.
2. Place the jig on the rear finishing tray cover and fix the one with the rear pull-in guide by 2 screws at the position of adjustment area B. Measure the height at the 2 measuring points where there are no protrusions of the rear pull-in guide as shown in the figure.
3. After fixing the screws, check that the dimension of the gap is more than adjustment area A and less than C.
4. Adjust the front pull-in guide in the same manner.

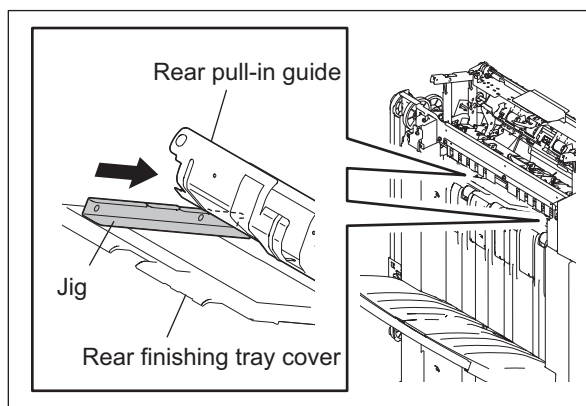


Fig. 4-122

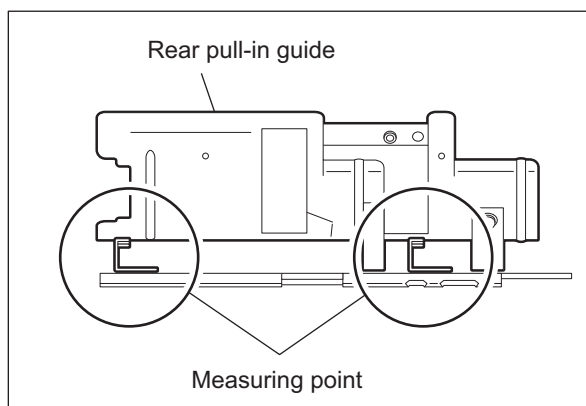


Fig. 4-123

- (9) Remove 1 clip on the rear side of the paddle shaft, and then slide the bushing.

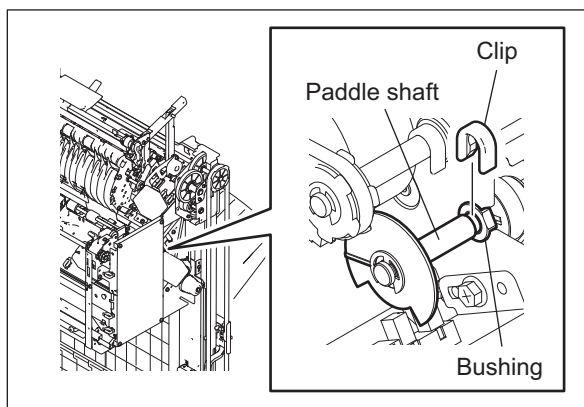


Fig. 4-124

- (10) Take off the paddle shaft, and the front and rear pull-in guides.

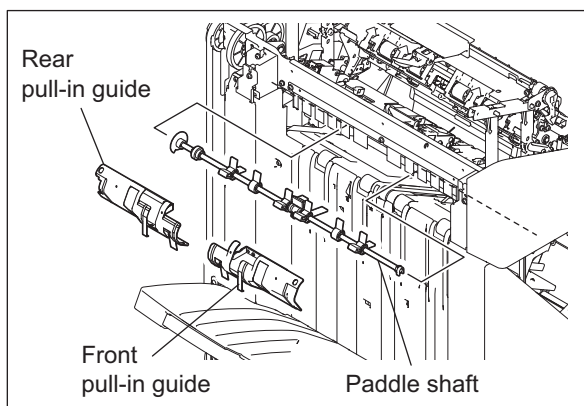


Fig. 4-125

- (11) Remove 1 clip and 10 E-rings. Then remove 6 paddles, 8 pins, 2 bushings. Then take off the catching pad, catching pad collar, spring, gear and actuator.

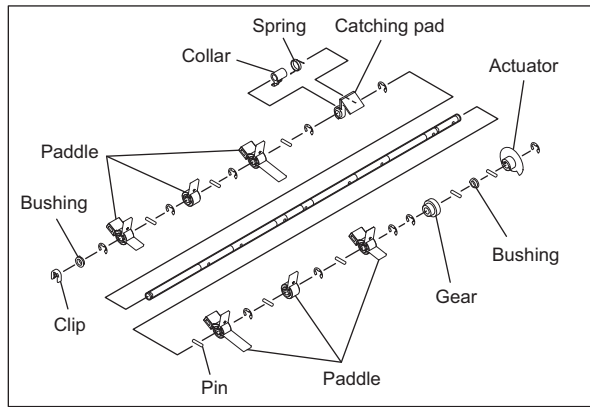


Fig. 4-126

Notes:

- Install the catching pad, catching pad collar and spring in the directions shown in the figure.
- When installing the paddle-1, paddle-2, paddle-3, paddle-4, paddle-5 and paddle-6, be sure that each star mark of the paddles is seen as shown in the figure.

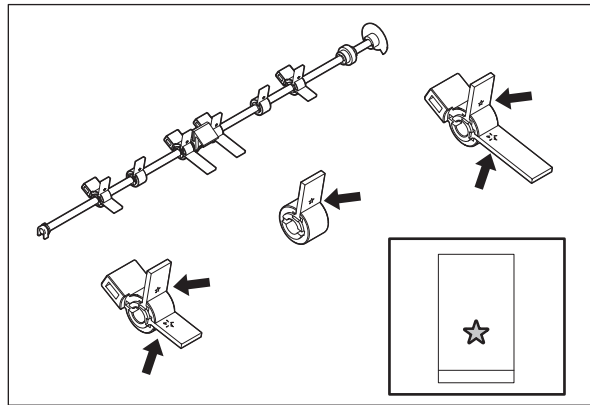


Fig. 4-127

[D] Front transport roller / Rear transport roller

- (1) Take off the stationary tray.
P.4-1 "[A] Stationary tray"
- (2) Take off the Junction box unit.
P.4-13 "[A] Junction box unit"
- (3) Close the buffer unit-1 halfway and leave it. Then remove 1 screw.

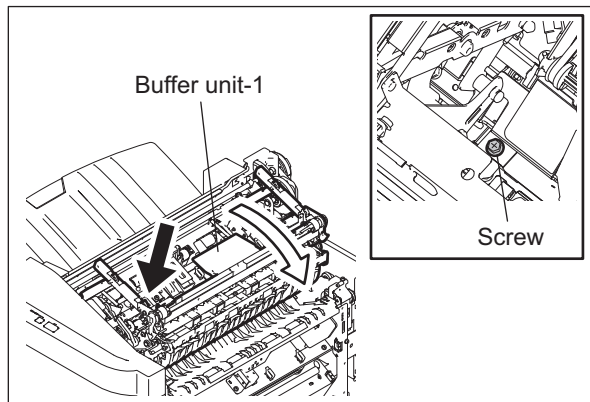


Fig. 4-128

- (4) Remove 3 screws, and then take off the transport guide.

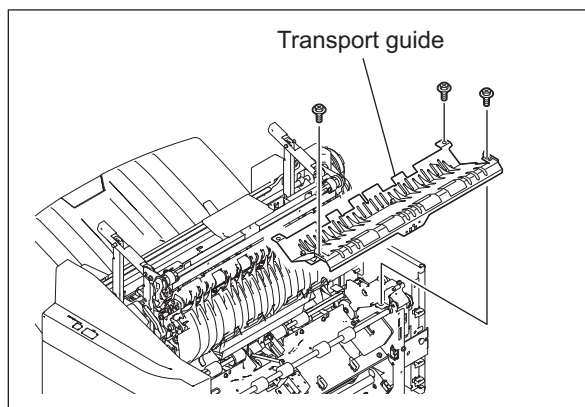


Fig. 4-129

- (5) Remove 1 E-ring, and then take off the front transport roller by sliding the bushing.

Note:

Be sure not to lose the belt.

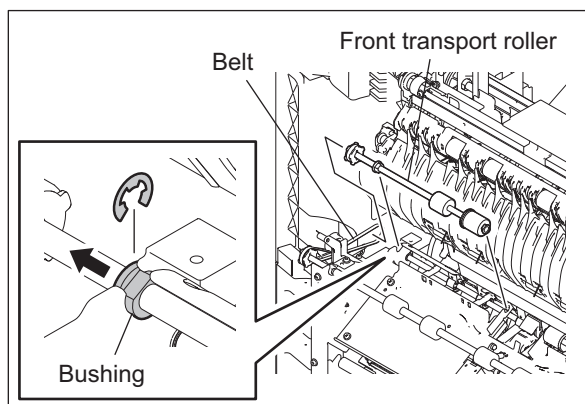


Fig. 4-130

- (6) Remove 1 clip, and then take off the rear transport roller by sliding the bushing.

Note:

Be sure not to lose the belt.

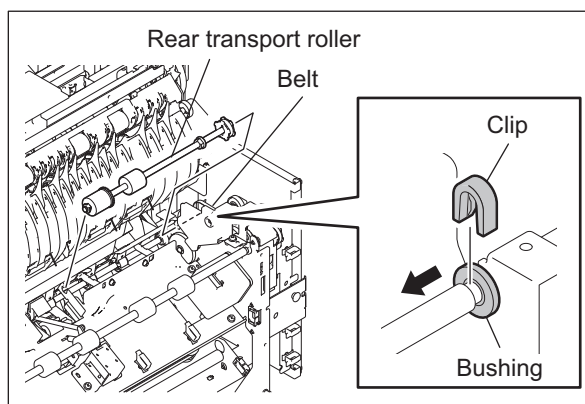


Fig. 4-131

- (7) Remove each 2 E-rings from the front and rear transport rollers. Then remove 2 bushings, the pulley and the pin.

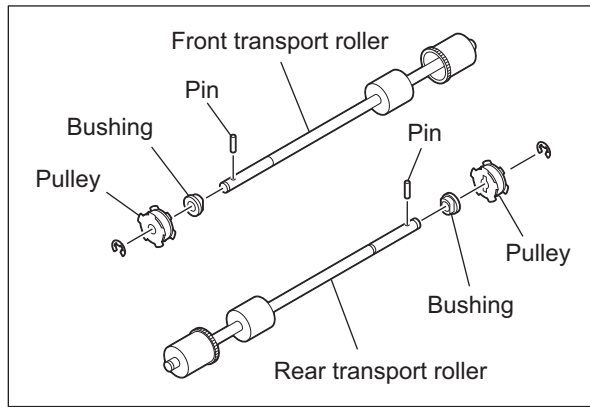


Fig. 4-132

[E] Entrance roller

- (1) Take off the stationary tray.
 P.4-1 "[A] Stationary tray"
- (2) Take off the Junction box unit.
 P.4-13 "[A] Junction box unit"
- (3) Close the buffer unit-1 halfway and leave it. Then remove 1 screw.

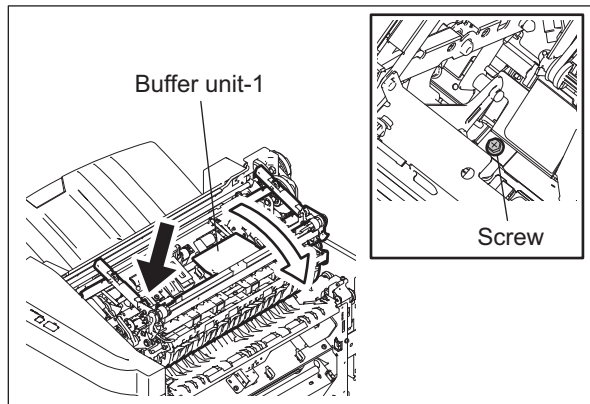


Fig. 4-133

- (4) Remove 3 screws, and then take off the transport guide.

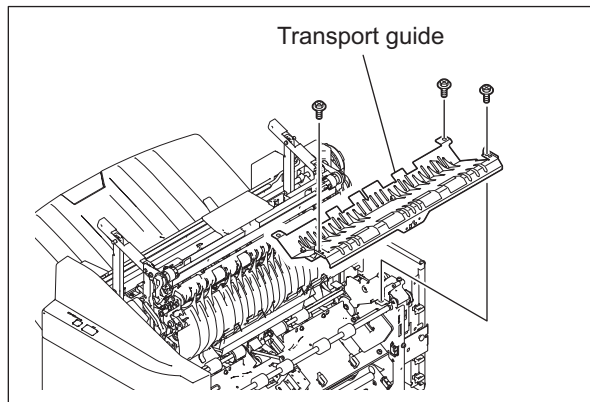


Fig. 4-134

- (5) Remove 1 screw to take off the 1 gear and 1 pin.
- (6) Remove 1 E-ring to take off the bushing.

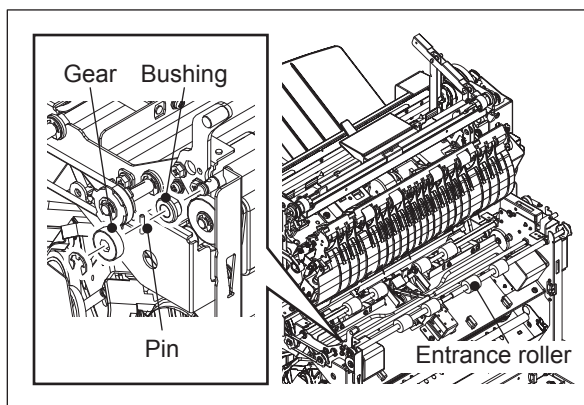


Fig. 4-135

- (7) Remove 1 E-ring, and then slide 1 bushing. Then take off the entrance roller.

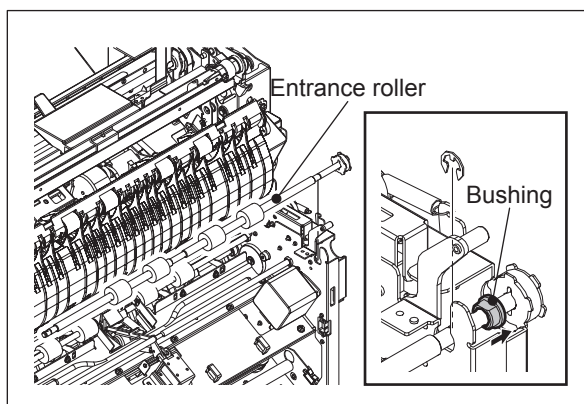


Fig. 4-136

- (8) Remove 1 E-ring. Then remove 1 pulley, 1 bushing and 1 pin from the entrance roller.

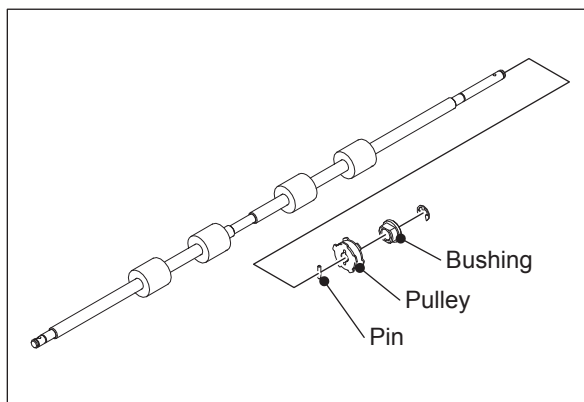


Fig. 4-137

[F] Stack transport roller-1

- (1) Take off the finishing tray unit.
P.4-19 "[D] Finishing tray unit"
- (2) Remove 3 screws, and then take off the front finishing tray cover.

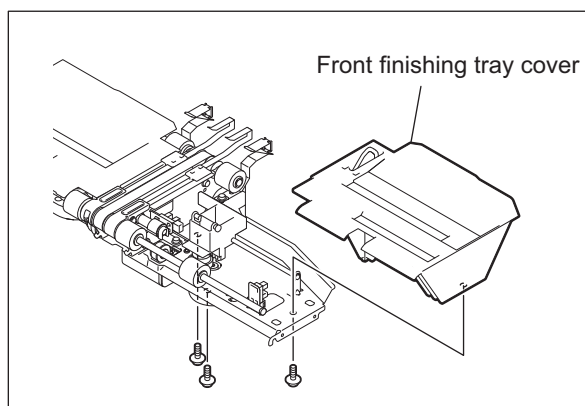


Fig. 4-138

- (3) Remove 3 screws, and then take off the rear finishing tray cover.

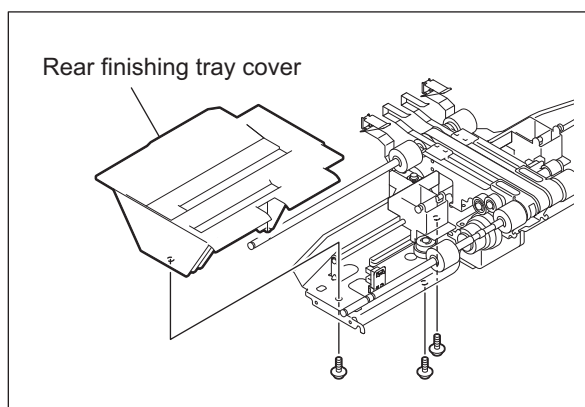


Fig. 4-139

- (4) Remove 2 E-rings, and then take off the pin and the stack transport roller-1.

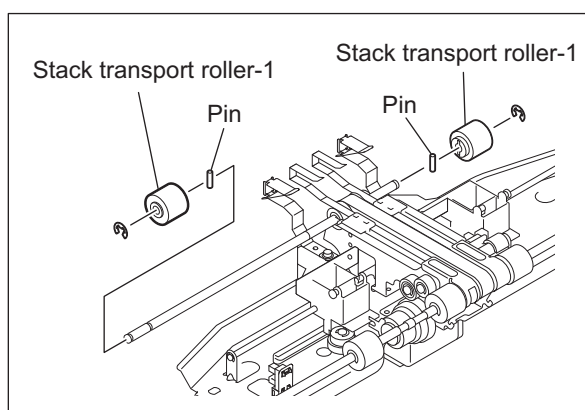


Fig. 4-140

[G] Stack transport roller-2

- (1) Take off the finishing tray unit.
P.4-19 "[D] Finishing tray unit"
- (2) Remove 3 screws, and then take off the front finishing tray cover.

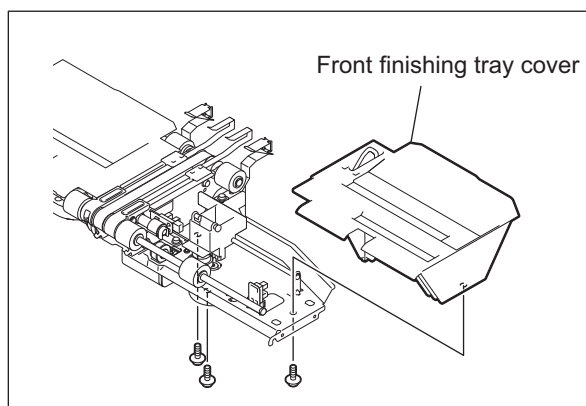


Fig. 4-141

- (3) Remove 3 screws, and then take off the rear finishing tray cover.

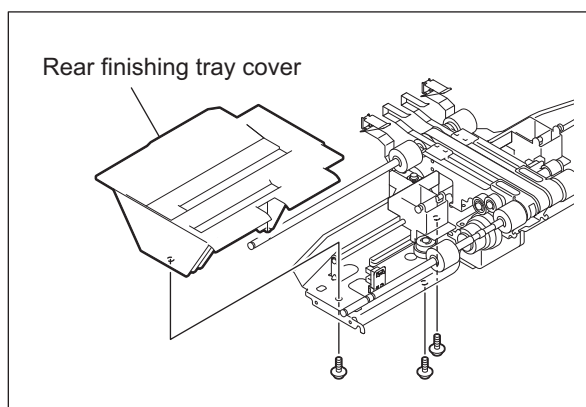


Fig. 4-142

- (4) Remove 4 E-rings and 4 pins, and then take off 4 stack transport rollers-2.

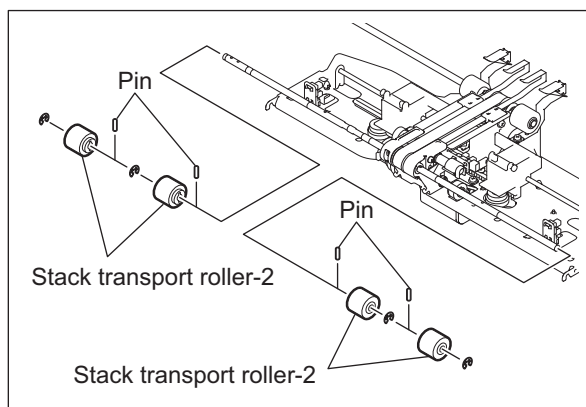


Fig. 4-143

[H] Buffer roller

- (1) Take off the buffer unit.
P.4-15 "[B] Buffer unit"
- (2) Loosen 1 screw, and then tighten the screw by pushing the plate in the direction of the arrow. (Loosen the belt tension.)

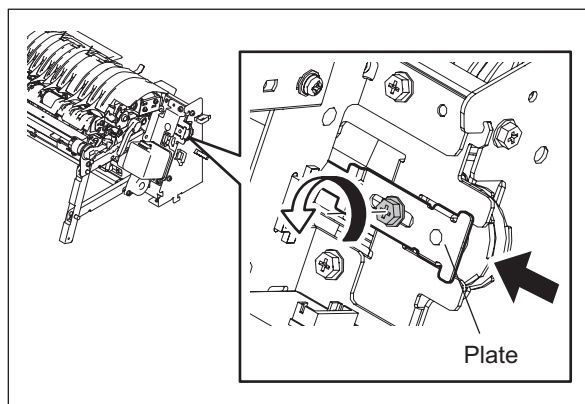


Fig. 4-144

- (3) Disconnect the connector of the buffer tray guide motor.

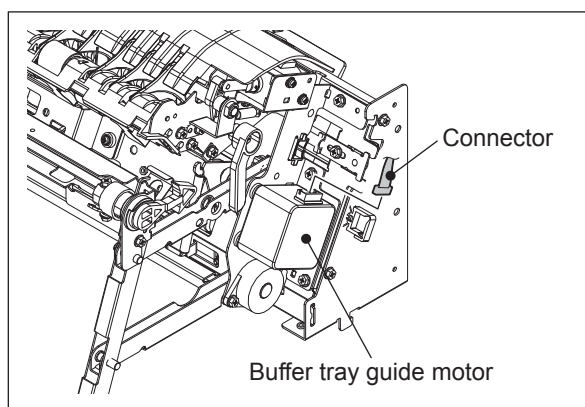


Fig. 4-145

- (4) Take off the belt of the buffer roller drive motor.

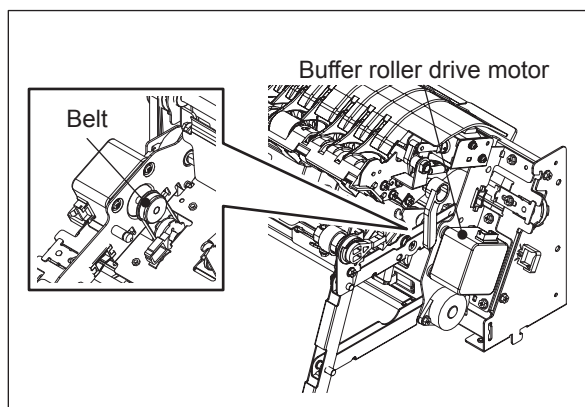


Fig. 4-146

- (5) Disconnect the connector of the buffer roller drive motor and release the harness out of the clamp.

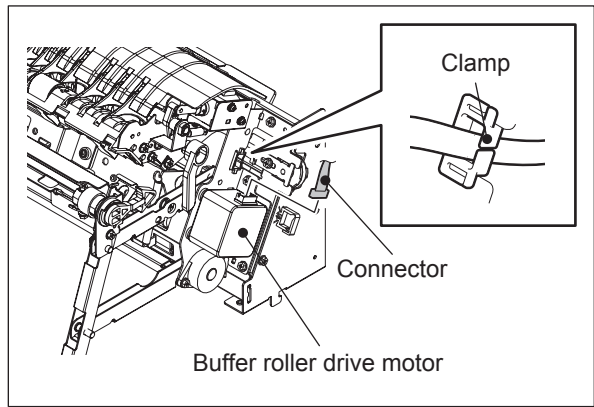


Fig. 4-147

- (6) Remove 5 screws, and then release the harness out of the clamp and the hole of the frame to take off the buffer unit-1.

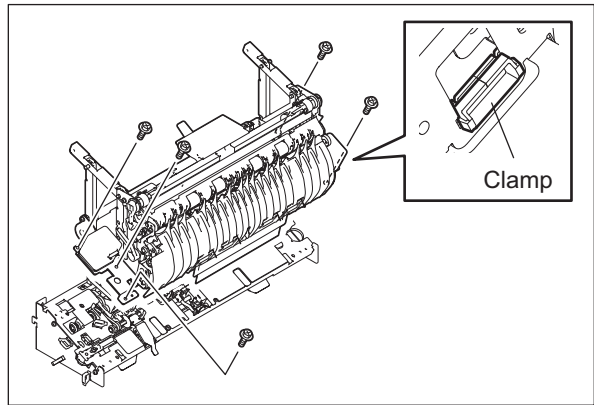


Fig. 4-148

- (7) Remove 2 screws, and then take off the rear side frame.

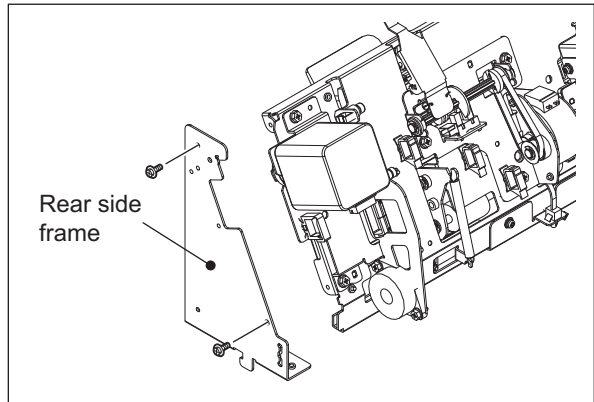


Fig. 4-149

- (8) Remove 1 E-ring. Then remove the shaft and the spring to take off the tapping arm.

Note:

Install the tapping arm as shown in the figure.

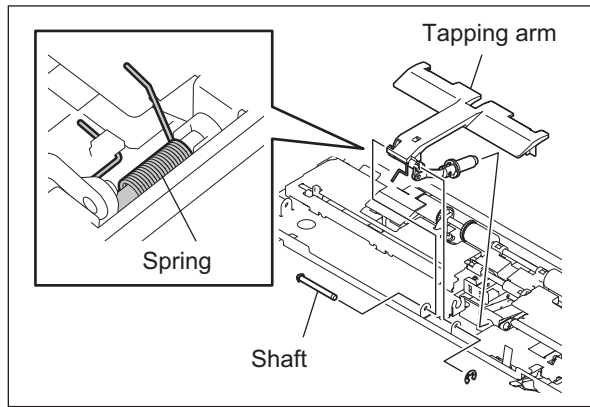


Fig. 4-150

- (9) Move the buffer guide to both ends by pushing the buffer roller.

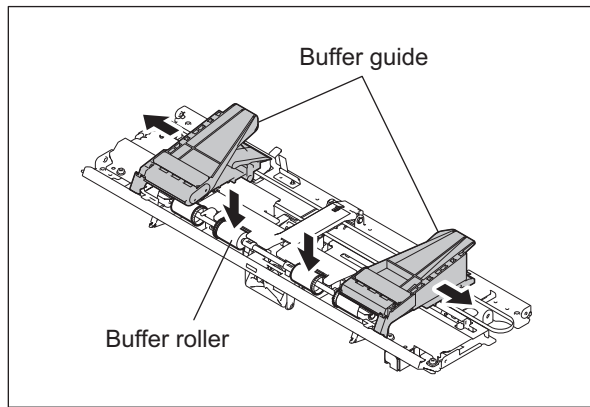


Fig. 4-151

- (10) Remove the spring and 2 E-rings. Then take off the front buffer roller guide.

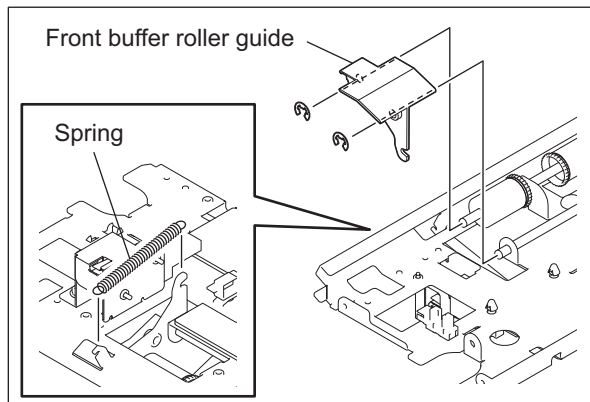


Fig. 4-152

- (11) Remove 2 E-rings, 2 gears, 1 spacer and the pin. Then take off the rear buffer roller guide.

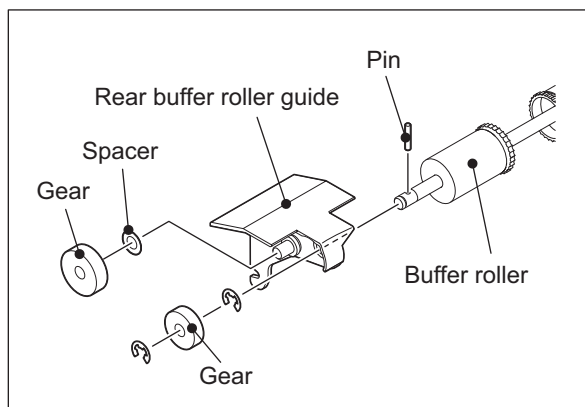


Fig. 4-153

- (12) Remove the E-ring, and then take off the shaft from the lift guide to take off the buffer roller.

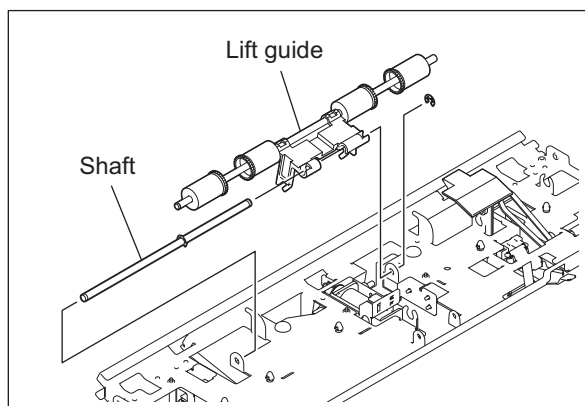


Fig. 4-154

- (13) Take off the lift guide from the buffer roller.

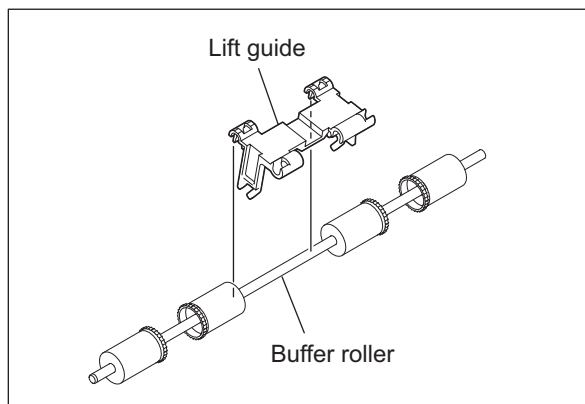


Fig. 4-155

[I] Upper exit roller / Upper exit roller guide

- (1) Take off the rear upper cover.
P.4-6 "[G] Rear cover"
- (2) Take off the control panel unit.
P.4-3 "[D] Control panel unit"
- (3) Remove 2 screws, and then take off the front and rear stays and 2 spacers.

Note:

Be careful not to damage the harness connected to the stationary tray transport guides.

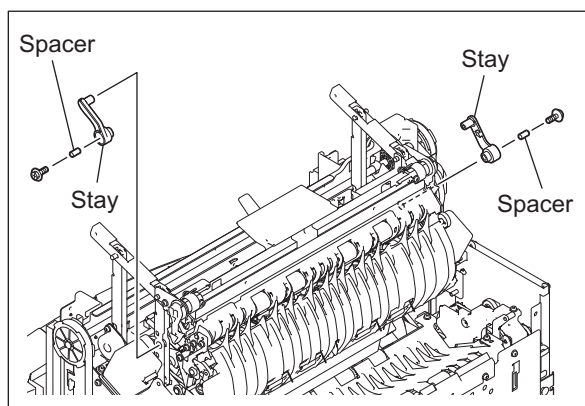


Fig. 4-156

- (4) Loosen 2 screws each for the front and rear stationary tray discharge brush.
- (5) Remove 4 screws and take off the front and rear stationary tray transport guides.

Note:

Be careful not to damage the harness of entrance sensor.

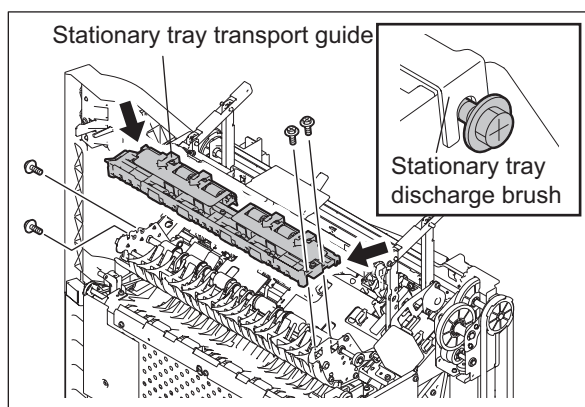


Fig. 4-157

Note:

When installing the front and rear stationary tray transport guides, fix them at the positions where the gap between the trailing edges of the guides and the frame is 1 mm. Check if the flap and the upper exit roller move smoothly after screws are tightened.

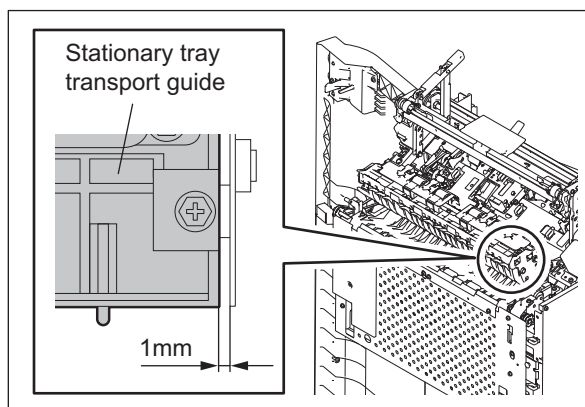


Fig. 4-158

- (6) Remove 4 screws of the upper exit roller guide.

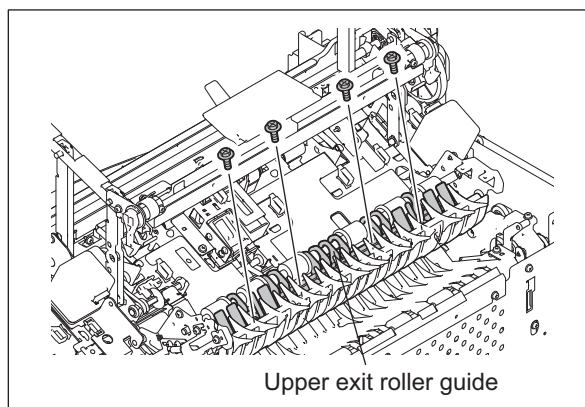


Fig. 4-159

- (7) Remove 5 E-rings, 1 gear, 1 pin, 1 actuator and 2 bushings.

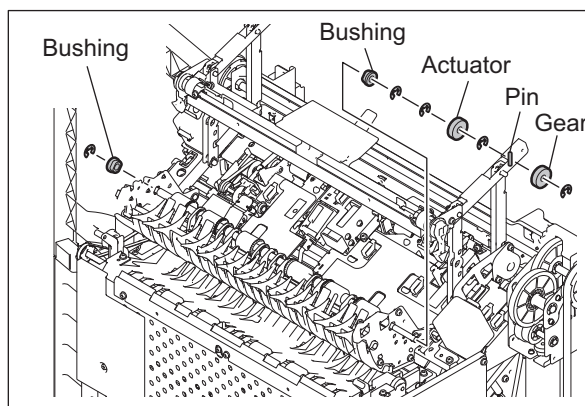


Fig. 4-160

- (8) Take off the upper exit roller and the upper exit roller guide.

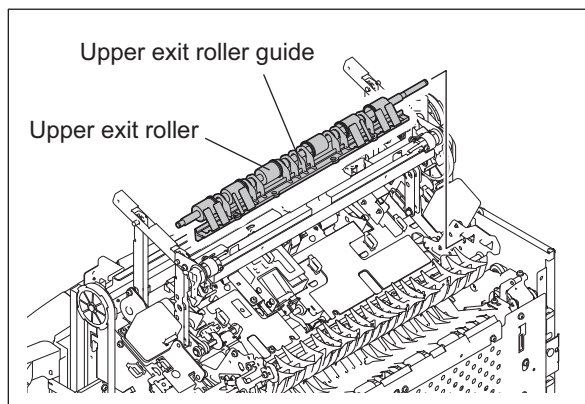


Fig. 4-161

4.5 Rollers (Saddle section: MJ-1104)

[A] Switchback transport roller

- (1) Take off the switchback unit.
P.4-28 "[B] Switchback unit"
- (2) Take off the saddle transport motor.
P.4-76 "[C] Saddle transport motor (M16)"
- (3) Open the jam transport guide.
- (4) Remove 3 screws and take off the feed knob assembly, bushing and belt.

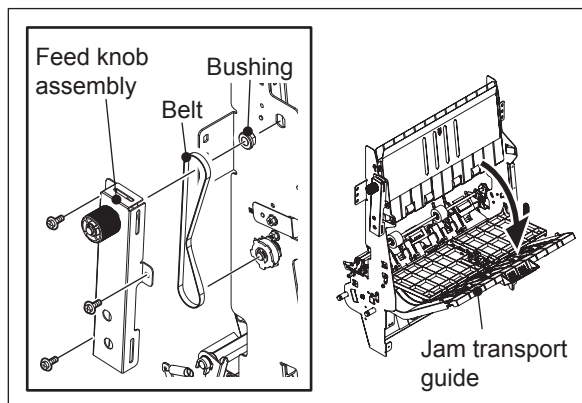


Fig. 4-162

- (5) Remove 4 E-rings and take off the 1 pulley, 1 gear, 2 pins and 2 bushings.

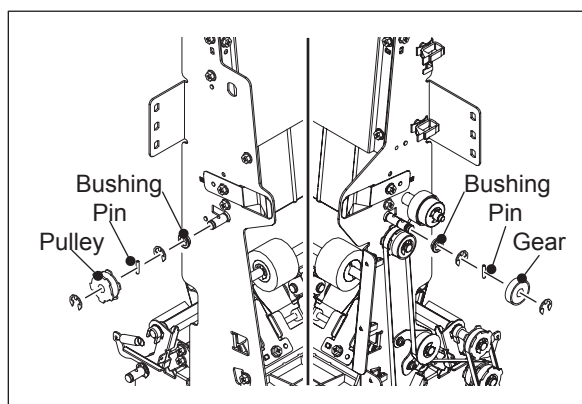


Fig. 4-163

- (6) Remove 4 screws and take off the transport guide and switchback transport roller.

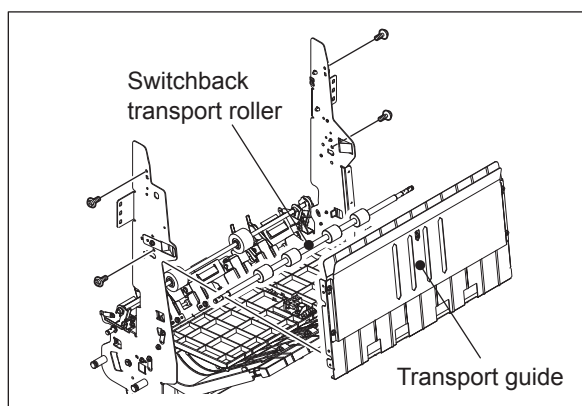



Fig. 4-164

[B] Assisting roller

- (1) Take off the switchback unit.
 P.4-28 "[B] Switchback unit"
- (2) Remove 1 E-ring and take off the pulley and belt.

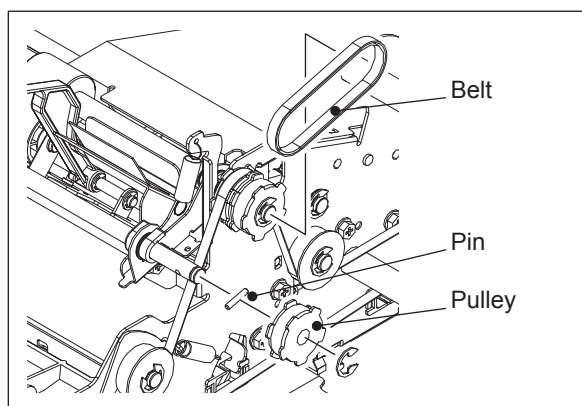


Fig. 4-165

- (3) Remove 2 E-rings and take off the 2 bushings and assisting roller.

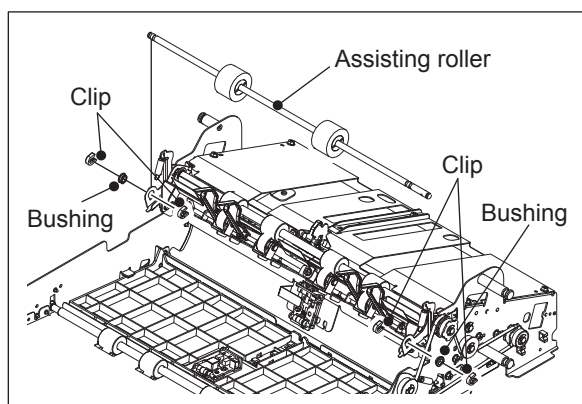



Fig. 4-166

[C] Ejecting roller

- (1) Take off the assisting roller.
 P.4-59 "[B] Assisting roller"
- (2) Remove the spring, and then loosen 2 screws to free the belt tension.

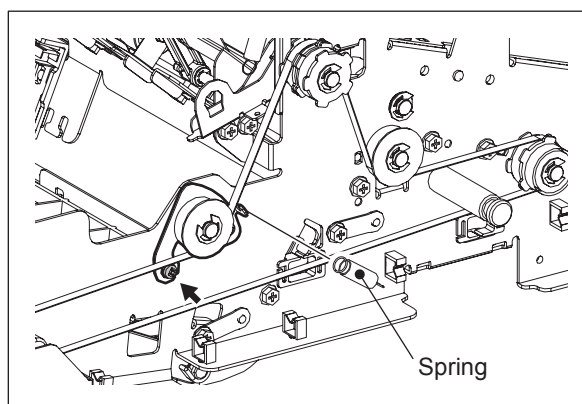


Fig. 4-167

- (3) Remove the 2 springs.

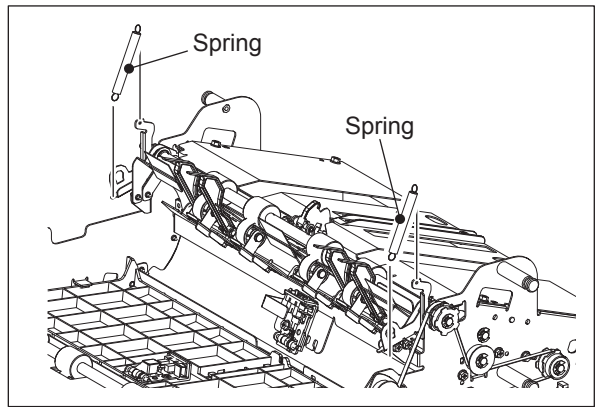


Fig. 4-168

- (4) Remove 4 E-rings and take off the 2 pulleys, 2 pins, 2 bushings and ejecting roller.

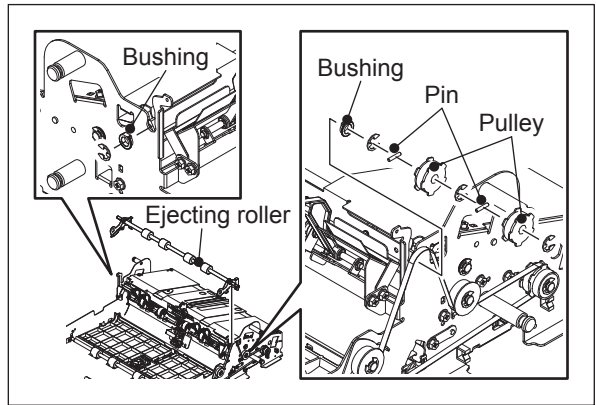


Fig. 4-169

- (5) Take off the right and left arms from the ejecting roller.

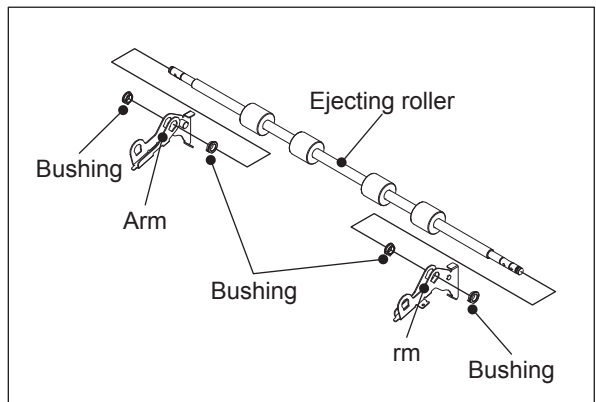


Fig. 4-170

[D] Upper folding roller / Lower folding roller

- (1) Take off the saddle stapler unit.
P.4-30 "[E] Saddle stapler unit"
- (2) Take off the saddle stacker unit.
P.4-37 "[H] Stacker unit"
- (3) Remove 1 clip and take off the gear and pin.

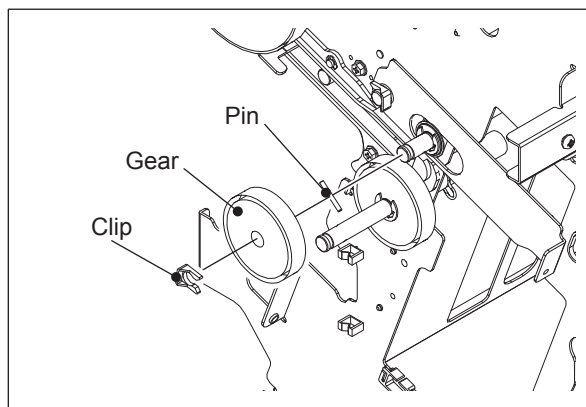


Fig. 4-171

- (4) Remove the 1 spring.

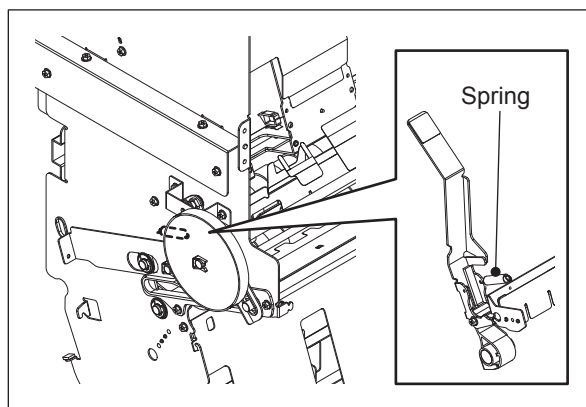


Fig. 4-172

- (5) Remove 2 E-rings and take off the 2 bearing.

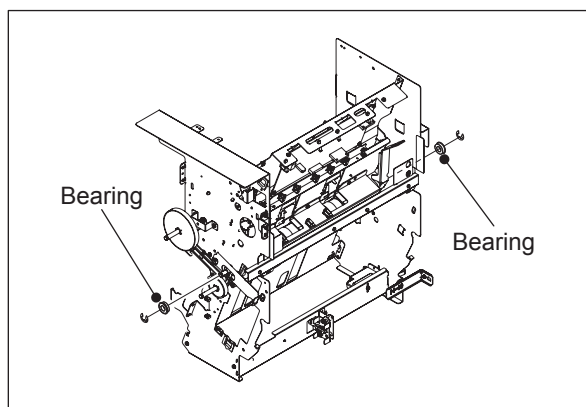


Fig. 4-173

- (6) Take off the upper folding roller while pulling the jam access lever.

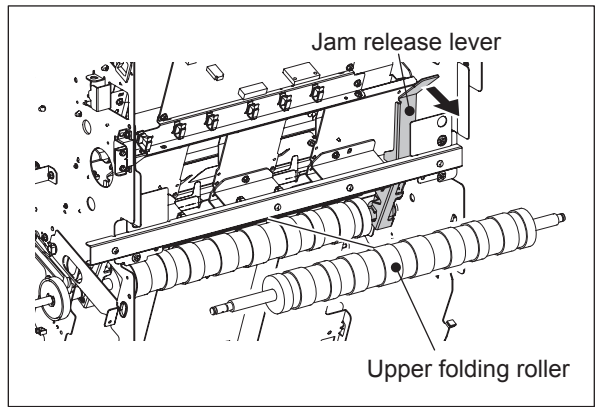


Fig. 4-174

- (7) Remove 1 E-rings and take off the gear and pin.

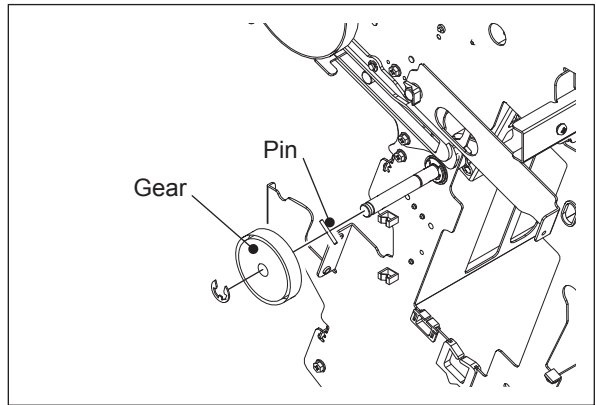


Fig. 4-175

- (8) Remove 2 E-rings and take off the 2 bearing.
(9) Remove 1 clip of the rear jam release lever.

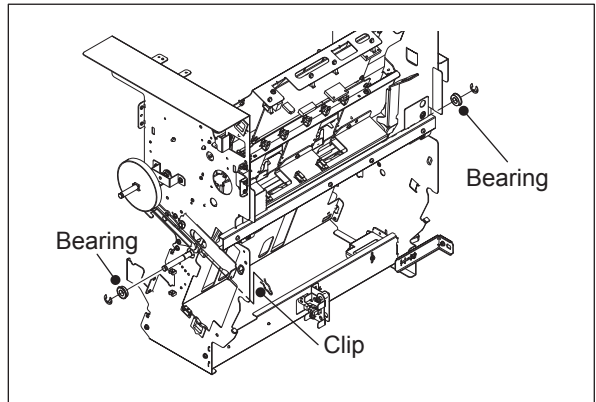


Fig. 4-176

- (10) Take off the 2 Jam release levers, 2 springs and lower folding roller.

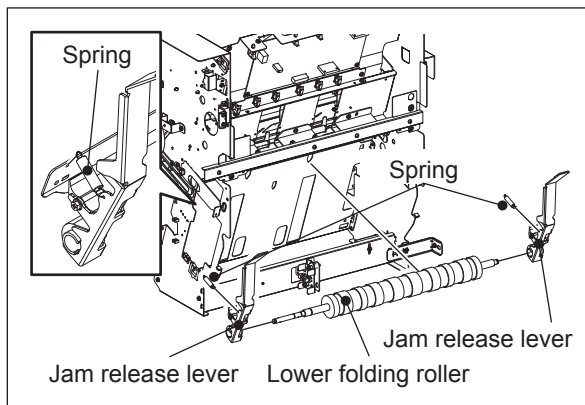


Fig. 4-177

[E] Exit roller

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 2 screws and take off the lower transport guide.

Note:

Be careful not to damage the harness connected to the lower transport guide.

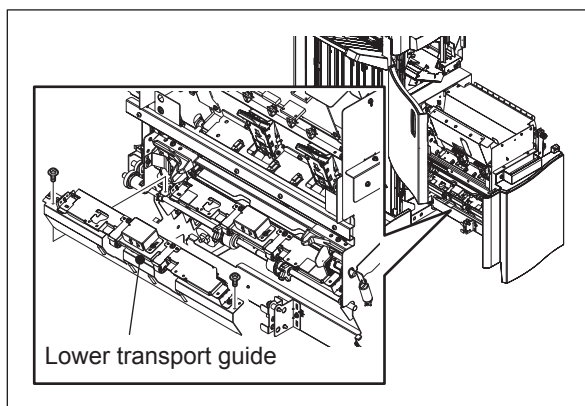


Fig. 4-178

- (3) Remove 1 clip and take off the bushing and exit roller.

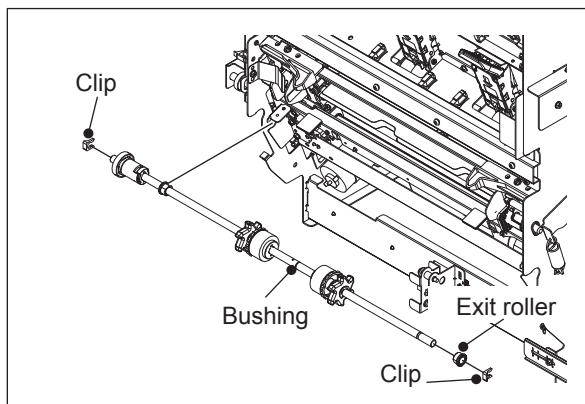


Fig. 4-179

4.6 Motor (Finisher section)

[A] Entrance motor (M1)

- (1) Take off the Junction box unit.
P.4-13 "[A] Junction box unit"
- (2) Take off the FIN board.
P.4-120 "[A] Finisher control PC board (FIN board)"
- (3) Remove 2 screws. Then disconnect the connector to take off the entrance motor.

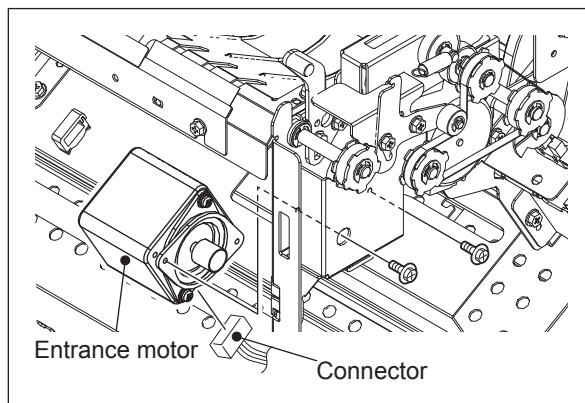


Fig. 4-180

- (4) Remove 2 screws, and then remove the motor damper.

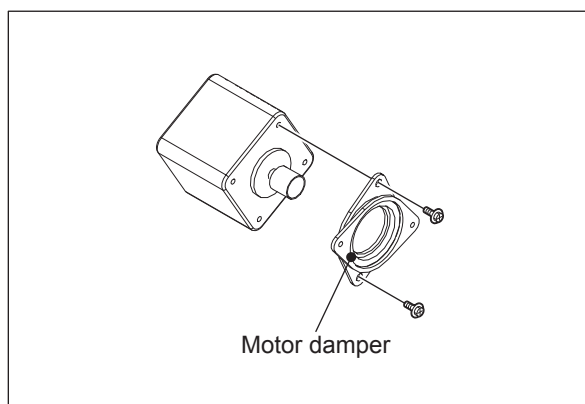


Fig. 4-181

[B] Buffer tray guide motor (M2)

- (1) Take off the buffer unit-1.
P.4-17 "[C] Buffer unit-1"
- (2) Remove 3 screws, and then take off the buffer tray guide motor.

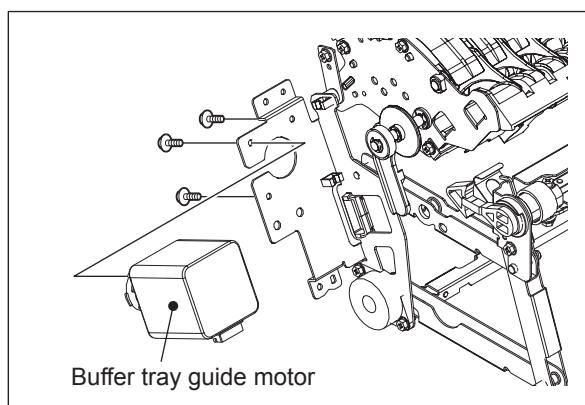


Fig. 4-182

[C] Paddle motor (M3)

- (1) Take off the rear cover.
 P.4-6 "[G] Rear cover"
- (2) Disconnect all the connectors of the FIN board and then release the harness from the clamp.
- (3) Remove 4 screws from the FIN board bracket.

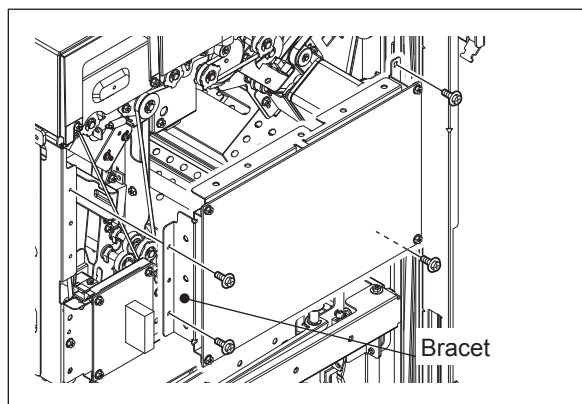


Fig. 4-183

- (4) Release the harness of the paddle motor out of the clamp.
- (5) Remove 2 screws, and then take off the paddle motor.

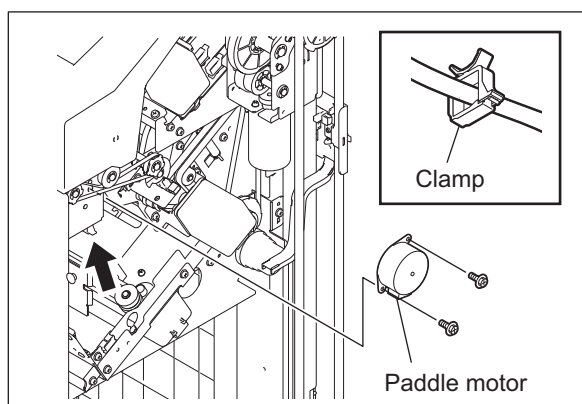


Fig. 4-184

[D] Buffer roller drive motor(M4)

- (1) Take off the control panel unit.
 P.4-3 "[D] Control panel unit"
- (2) Take off the stationary tray.
 P.4-1 "[A] Stationary tray"
- (3) Take off the the belt to pulley of the buffer roller drive motor.
- (4) Remove 2 screws, and then disconnect the connector to take off the buffer roller drive motor.

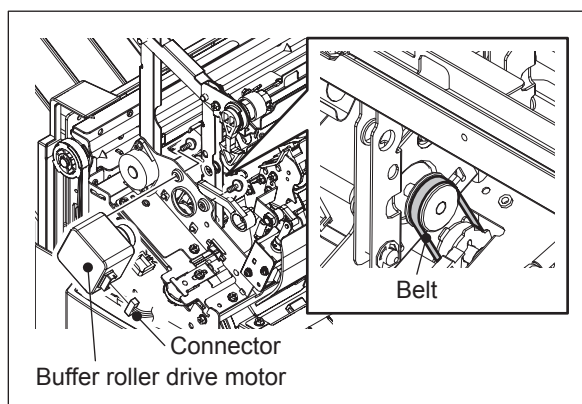


Fig. 4-185

[E] Front alignment motor (M5)

- (1) Take off the grate-shaped guide.
P.4-10 "[N] Grate-shaped guide"
- (2) Release the harness out of the clamp, and then disconnect the relay connector.
- (3) Remove 2 screws, and then take off the front alignment motor.

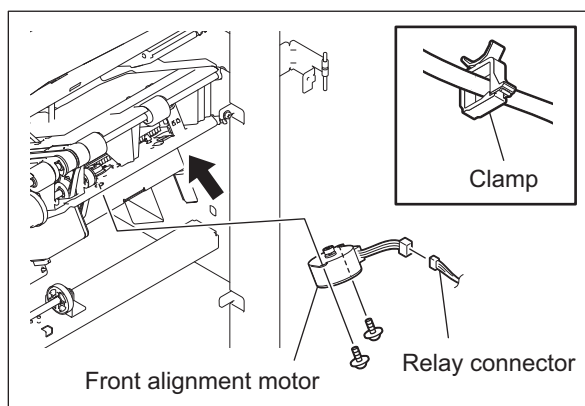


Fig. 4-186

[F] Rear alignment motor (M6)

- (1) Take off the grate-shaped guide.
P.4-10 "[N] Grate-shaped guide"
- (2) Remove 2 screws, and then disconnect the relay connector to take off the rear alignment motor.

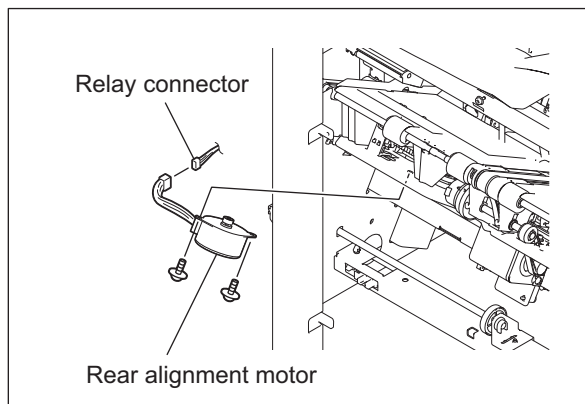


Fig. 4-187

[G] Transport motor (M7)

- (1) Take off the rear cover.
P.4-6 "[G] Rear cover"
- (2) Remove the spring, and then loosen 2 screws to free the belt tension.

Note:

When installing the transport motor, loosen the 2 screws of the tension plate after the spring is hooked.

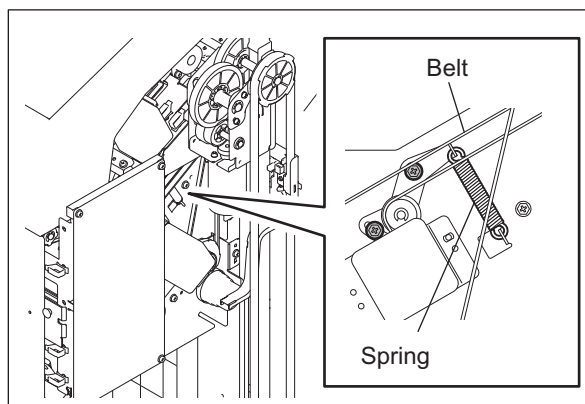


Fig. 4-188

- (3) Remove 2 screws, and then disconnect the connector and remove the belt to take off the transport motor.

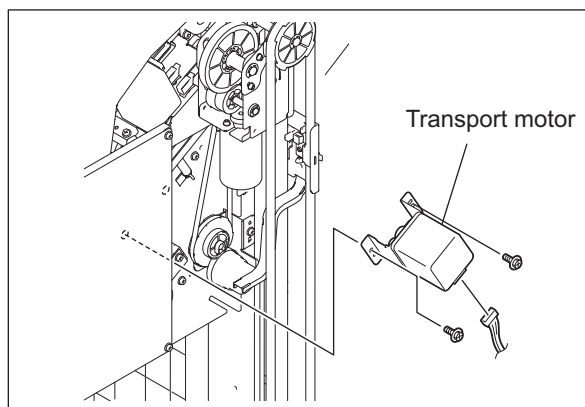


Fig. 4-189

- (4) Remove 2 screws, and then remove the 2 spacers, 2 screw dampers, earth plate, bracket and motor damper.

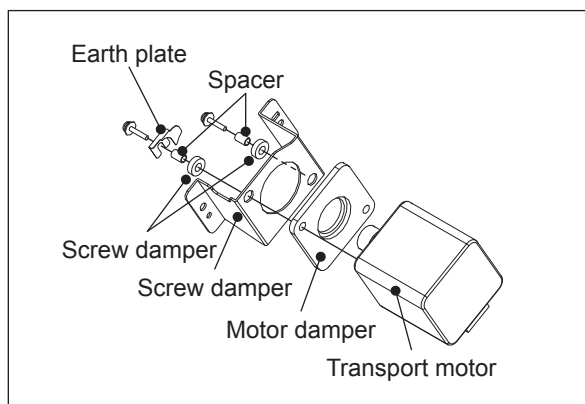


Fig. 4-190

[H] Stack transport motor (M8)

- (1) Take off the grate-shaped guide.
 P.4-10 "[N] Grate-shaped guide"
- (2) Remove 1 clip, and then take off the clip, gear, and shaft.

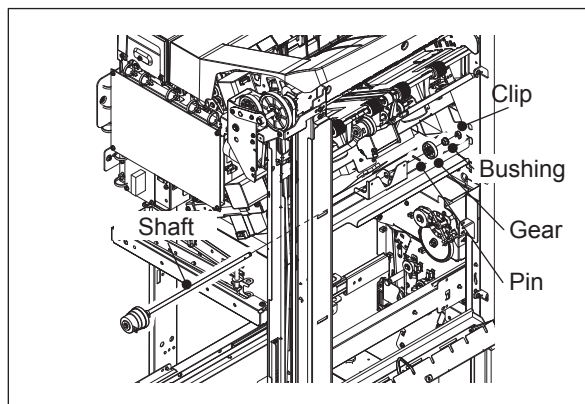


Fig. 4-191

- (3) Remove 2 screws and then take off the bracket.

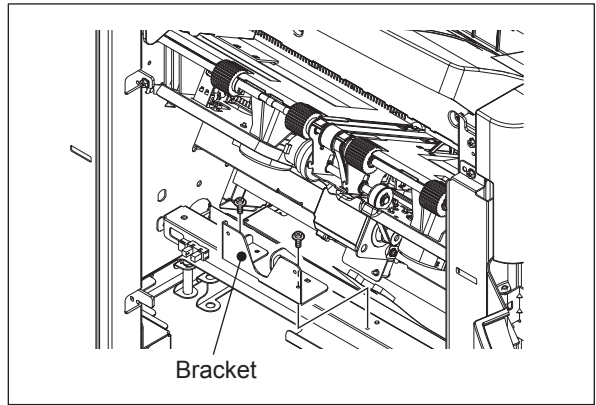


Fig. 4-192

- (4) Disconnect the connector and remove the belt. Then remove 2 screws to take off the stack transport motor.

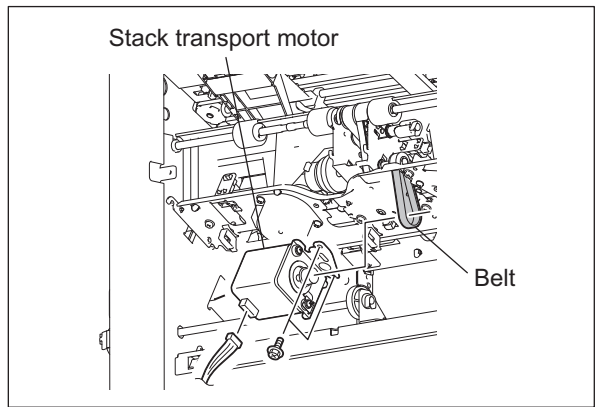


Fig. 4-193

[I] Stapler unit shift motor (M9)

- (1) Take off the rear cover.
P.4-6 "[G] Rear cover"
- (2) Disconnect all the connectors of the FIN board and then release the harness from the clamp.
- (3) Remove 4 screws from the FIN board bracket.

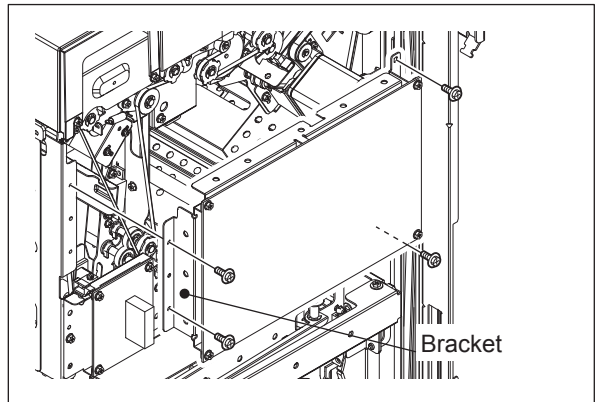


Fig. 4-194

- (4) Remove 2 screws, and then disconnect the connector to take off the stapler unit shift motor.

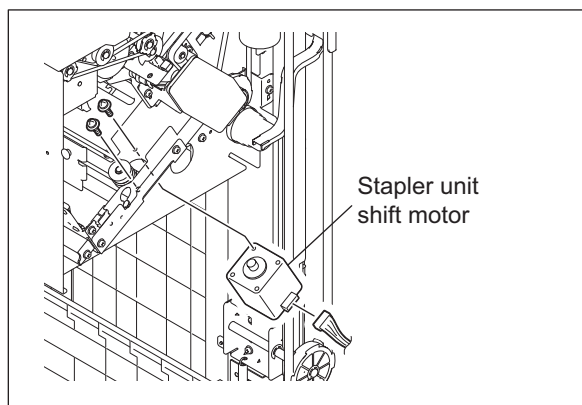


Fig. 4-195

[J] Paper pusher arm motor(M10)

- (1) Take off the stationary tray.
 P.4-1 "[A] Stationary tray"
- (2) Disconnect all the connector of the paper pusher home position sensor.
- (3) Release the harness from the 1 clamp.

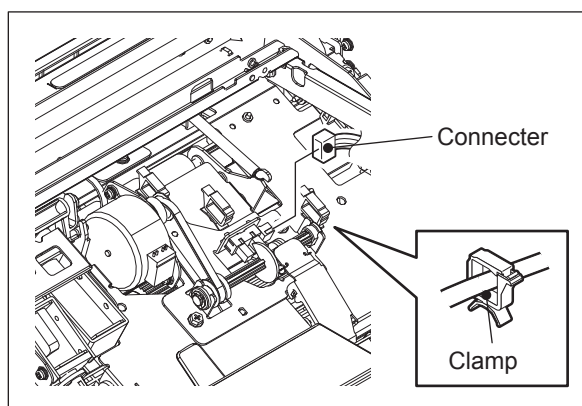


Fig. 4-196

- (4) Disconnect the relay connector of the paper pusher arm motor and then release the harness from the 2 clamps.

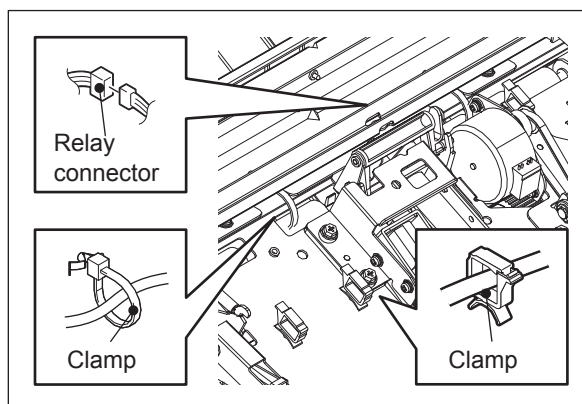


Fig. 4-197

- (5) Remove 3 screws, and then take off the assisting arm assembly.

Note:

When installing, be sure that the edge of the arm of the assisting arm assembly comes under the paper holding arm.

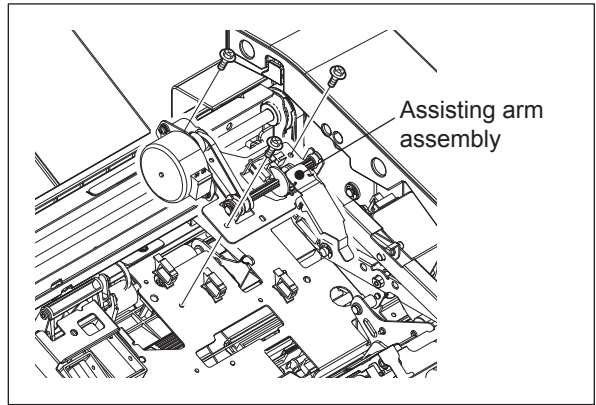


Fig. 4-198

- (6) Remove 2 screws, and then take off the paper pusher arm motor.

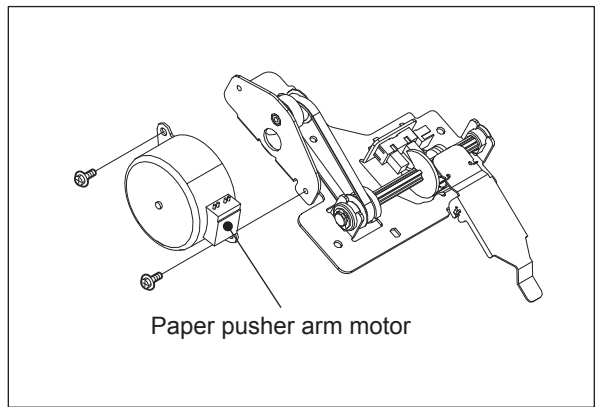


Fig. 4-199

[K] Exit motor (M11)

- (1) Take off the junction box unit.
P.4-13 "[A] Junction box unit"
- (2) Remove 2 screws, and then take off the exit motor.

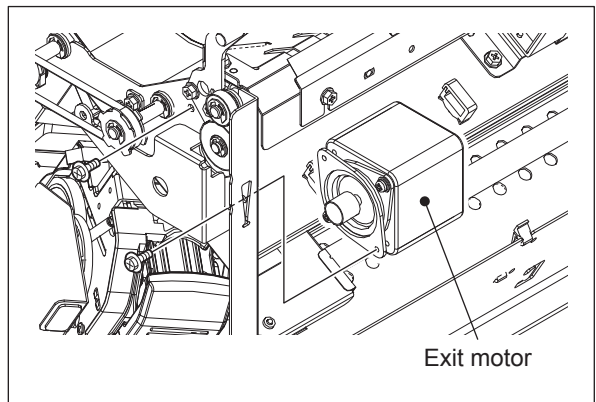


Fig. 4-200

- (3) Remove 2 screws, and then remove the motor damper.

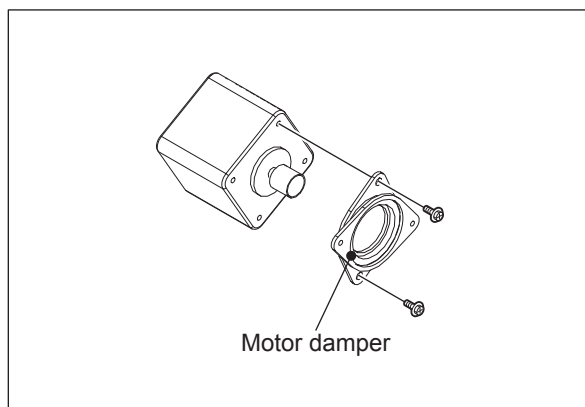


Fig. 4-201

[L] Movable tray shift motor

- (1) Take off the rear cover.
 P.4-6 "[G] Rear cover"
- (2) Move the movable tray shift frame to the middle position. If the movable tray shift frame needs to be lowered, push the gear of the movable tray shift motor unit in the direction of the arrow to unlock the frame. (Be sure to hold the movable tray gear frame with your hands because it may fall when the gear is pushed.)

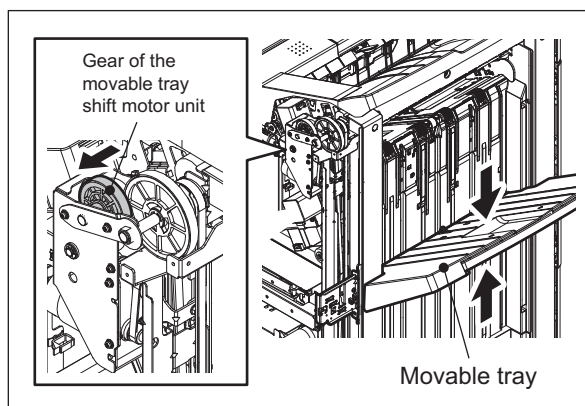


Fig. 4-202

- (3) Remove 2 screws, and then take off the sensor rail.

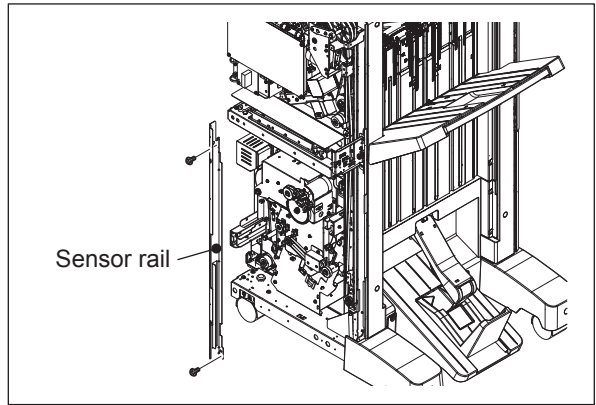


Fig. 4-203

Note:

When installing the movable tray drive unit, fix it at the position where the gap between the center mark of the scale on the sensor rail and the edge of the movable tray position-a sensor is from 0 to 1 mm. Be sure to adjust the installation position by shifting the movable tray shift frame and measure the positions at the upper and lower measuring points on the sensor rail as shown in the figure.

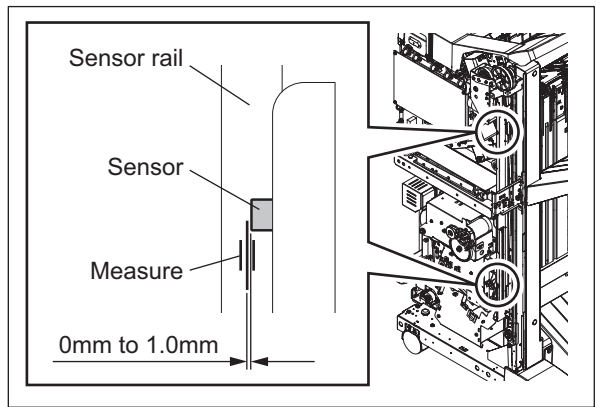


Fig. 4-204

- (4) Release the harness out of 3 clamps, and then disconnect the connector of CN15 on the FIN board.
- (5) Disconnect the connector of the movable tray shift motor.

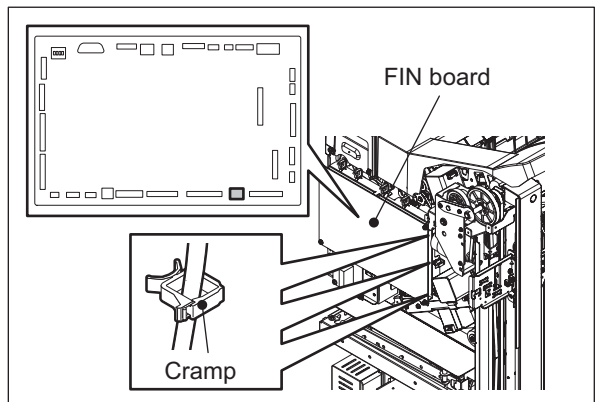


Fig. 4-205

- (6) Remove 2 screws, and then take off the movable tray shift motor.

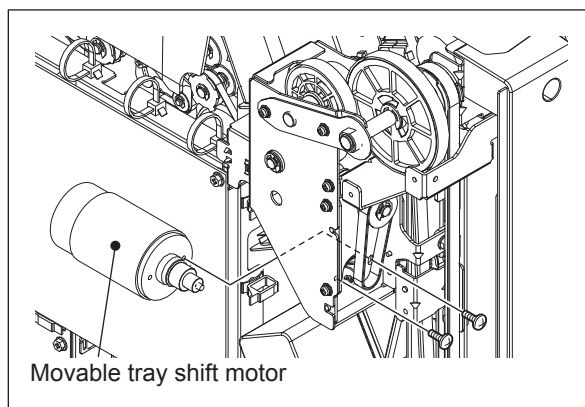


Fig. 4-206

4.7 Motor (Saddle section: MJ-1104)

[A] Stacker motor (M14)

- (1) Take off the stacker unit.
P.4-37 "[H] Stacker unit"
- (2) Move the stacker to the upper position.
- (3) Remove 1 E-ring, and then take off the spring, belt and shaft by sliding the bushing.

Note:

Do not lose the removed bushing of the shaft.

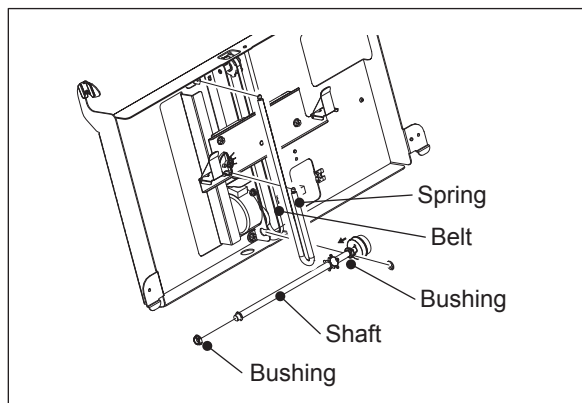


Fig. 4-207

- (4) Remove 1 E-ring, and then take off the stacker.

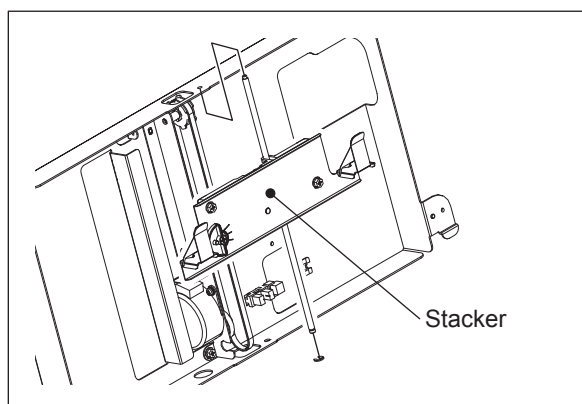


Fig. 4-208

- (5) Remove 3 screws, and then take off the motor bracket.

Note:

Do not lose the removed gear of the motor bracket.

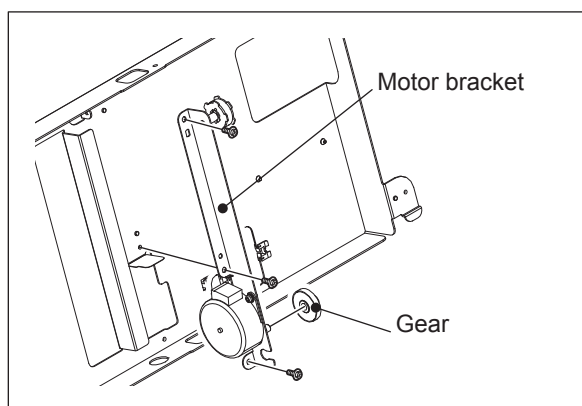


Fig. 4-209

- (6) Remove 2 screws. Release the harness out of 1 clamp, and then take off the stacker motor.

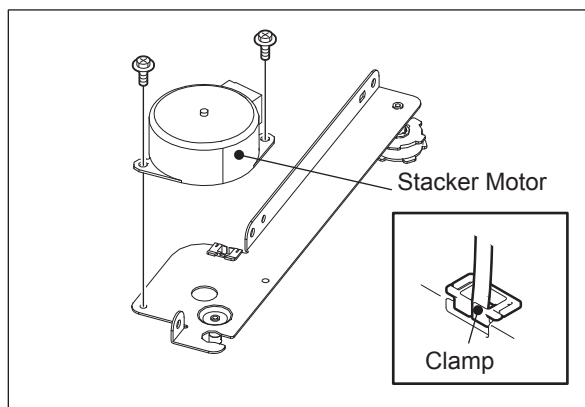


Fig. 4-210

[B] Side alignment motor (M15)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 4 screws, and then take off the upper safety cover.

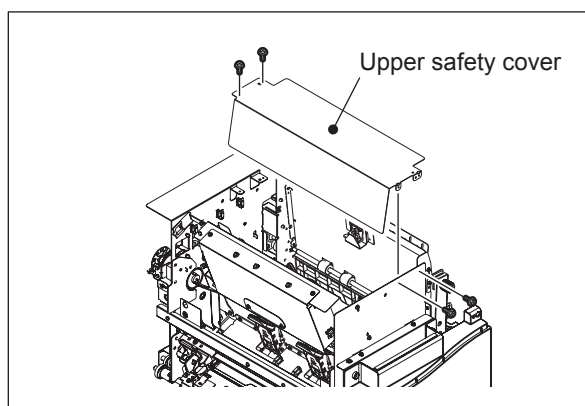


Fig. 4-211

- (3) Remove 2 screws, and then disconnect the relay connector to take off the side alignment motor.

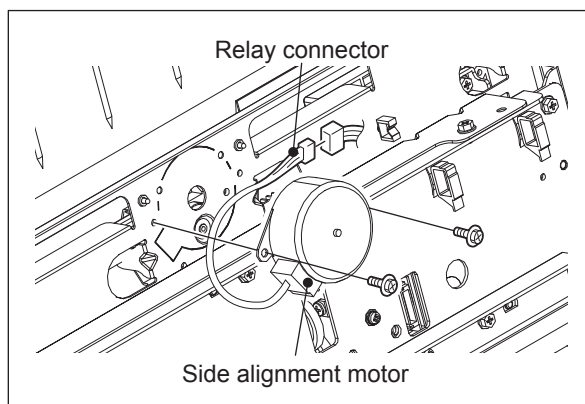


Fig. 4-212

[C] Saddle transport motor (M16)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 2 screws, and then take off the motor cover.

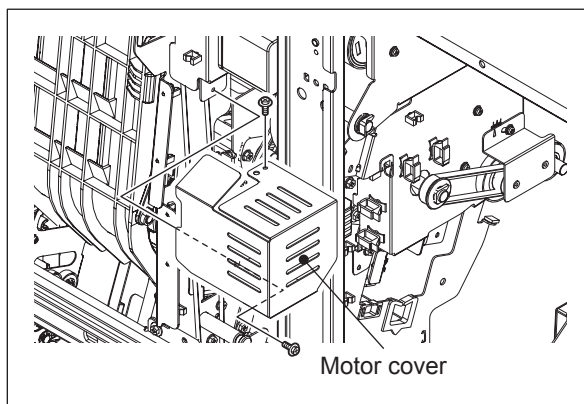


Fig. 4-213

- (3) Remove 2 screws, and then take off the motor bracket.

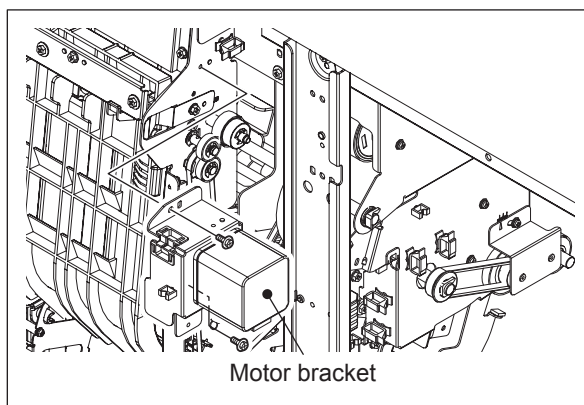


Fig. 4-214

- (4) Remove 3 screws, and then take off the 3 spacers, 3 screw dampers, earth plate, motor damper and saddle transport motor.

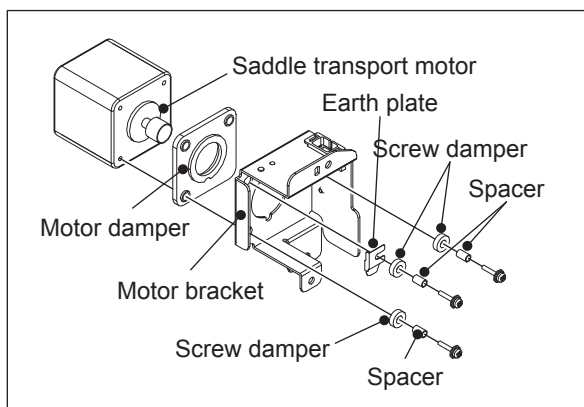


Fig. 4-215

[D] Folding motor (M17)

- (1) Take off the saddle unit.
P.4-26 "[A] Saddle unit"
- (2) Release the harness out of 6 clamps, and then disconnect each connector of CN4 on the SDL board.

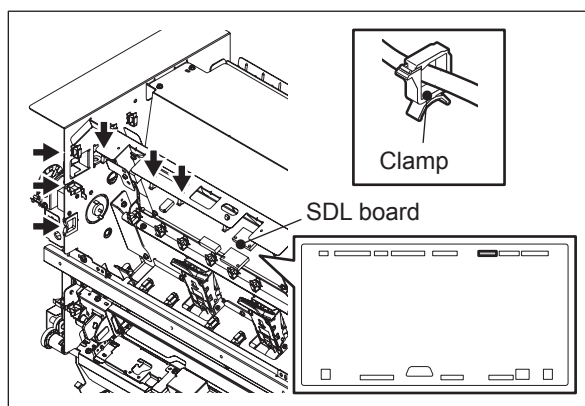


Fig. 4-216

- (3) Take off the belt of folding motor.

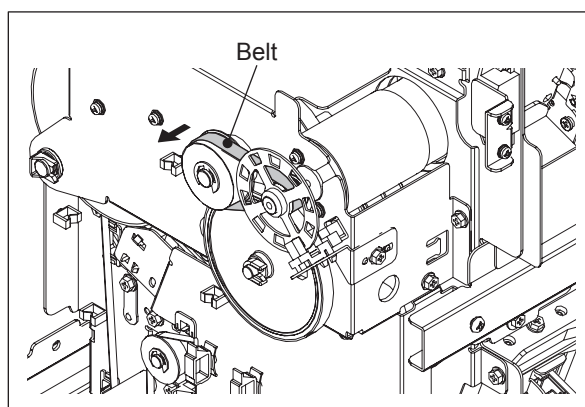


Fig. 4-217

- (4) Remove 2 screws and take off the folding motor.

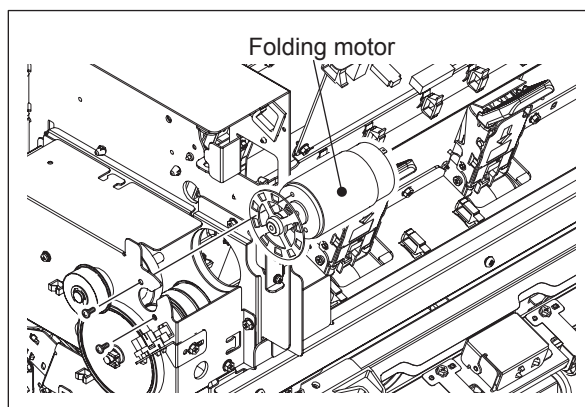


Fig. 4-218

[E] Additional folding motor (M20)

- (1) Take off the EFS unit.
P.4-35 "[G] EFS unit"
- (2) Disconnect the connector of the additional folding motor encoder sensor.
- (3) Break the binding wire at 1 position and release the harness from the clamp.

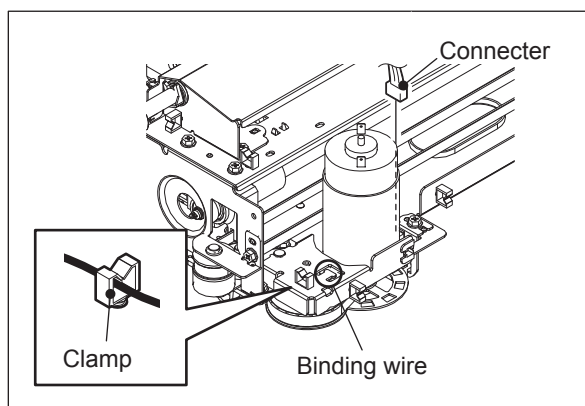


Fig. 4-219

- (4) Remove the 1 clip.
- (5) Remove 2 screws and take off the gear bracket and pulley.

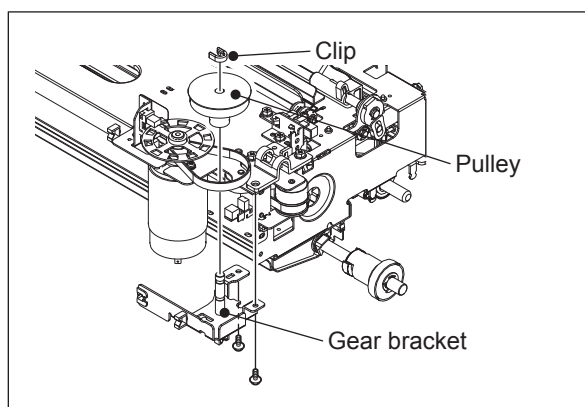


Fig. 4-220

- (6) Remove 2 screws and take off the belt and additional folding motor.

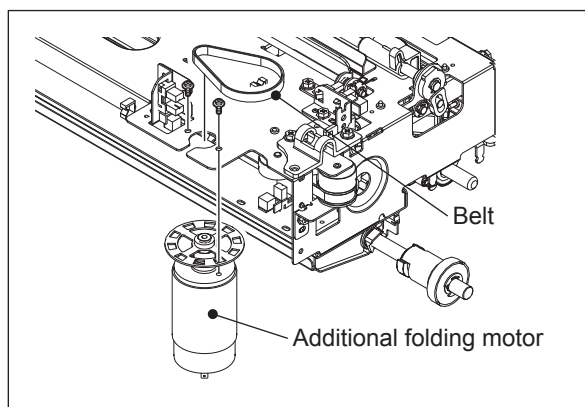


Fig. 4-221

4.8 Solenoid

[A] Shutter clutch (CLT1)

- (1) Take off the rear cover.
P.4-6 "[G] Rear cover"
- (2) Remove 1 E-ring, and then disconnect the relay connector to take off the shutter clutch.

Note:

When installing the shutter clutch, attach a rotation protection.

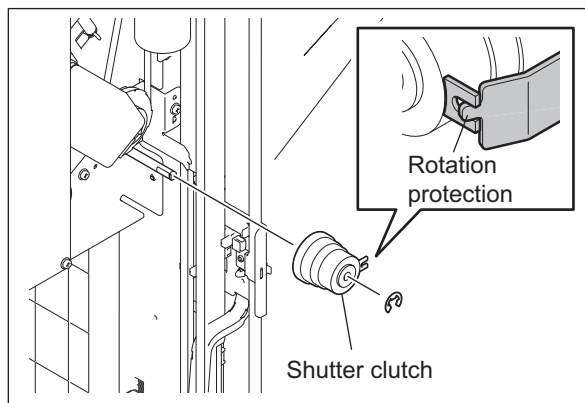


Fig. 4-222

[B] Paper exit guide clutch (CLT2)

- (1) Take off the grate-shaped guide.
P.4-10 "[N] Grate-shaped guide"
- (2) Remove 4 E-rings, and then slide the bushing.

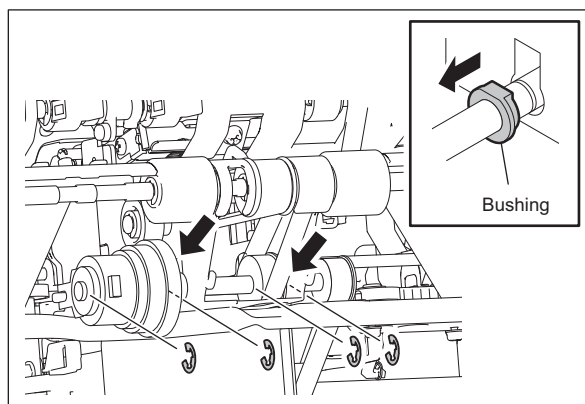


Fig. 4-223

- (3) Take off the belt of the stack transport motor.

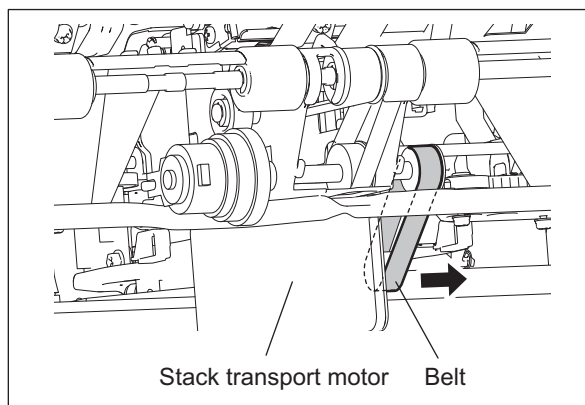


Fig. 4-224

- (4) Slide the shaft in the direction of the arrow to remove the pin.

Notes:

- Be sure not to lose the belt.
- When installing the paper exit guide clutch, attach a rotation protection.

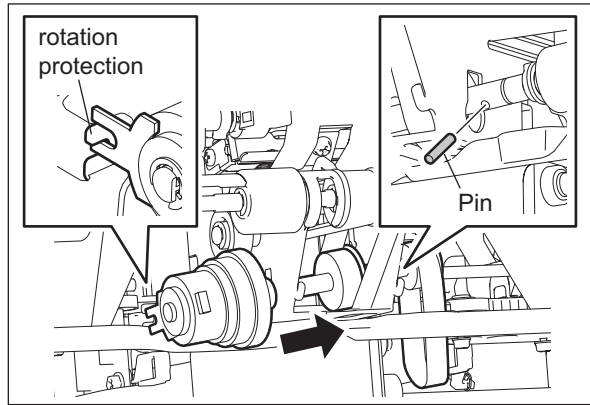


Fig. 4-225

- (5) Then take off the paper exit guide clutch by sliding the shaft. Disconnect the relay connector, and then take off the paper exit guide clutch.

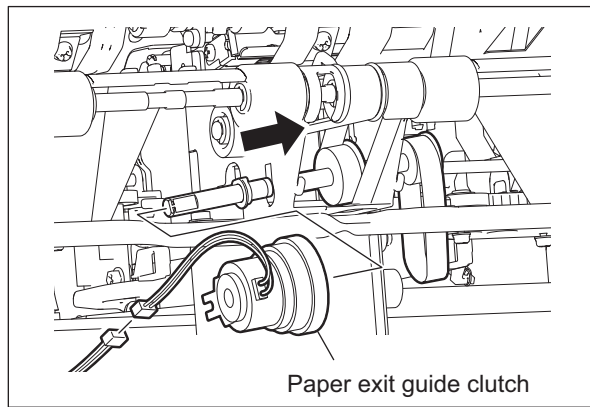


Fig. 4-226

[C] Folding blade clutch (CLT3)

- (1) Take off the folding drive unit.
P.4-33 "[F] Folding drive unit"
- (2) Remove 7 screws and 1 clip.

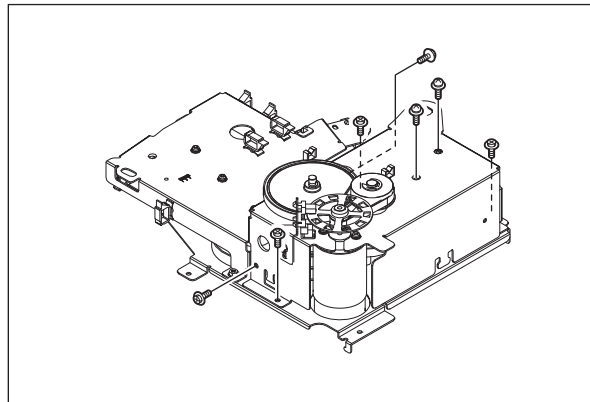


Fig. 4-227

- (3) Take off the gear bracket. Disconnect the relay connector, and then take off the bearing and folding blade clutch.

Note:

When installing the folding blade clutch, attach a rotation protection.

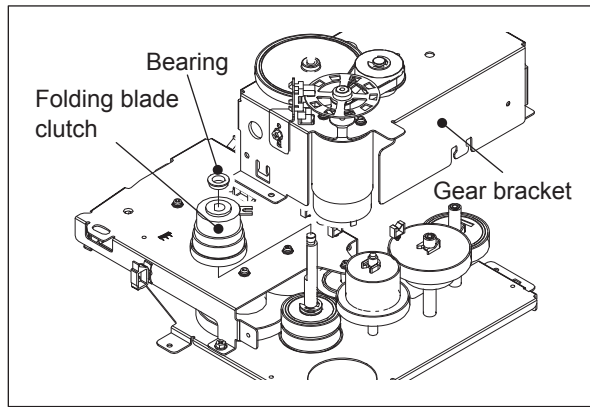


Fig. 4-228

[D] Paper holding clutch (CLT4) (MJ-1104)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Disconnect the relay connector, and then release the harness from the clamp.
- (3) Remove 1 E-ring , and then take off the paper holding clutch.

Note:

When installing the paper holding clutch, attach a rotation protection.

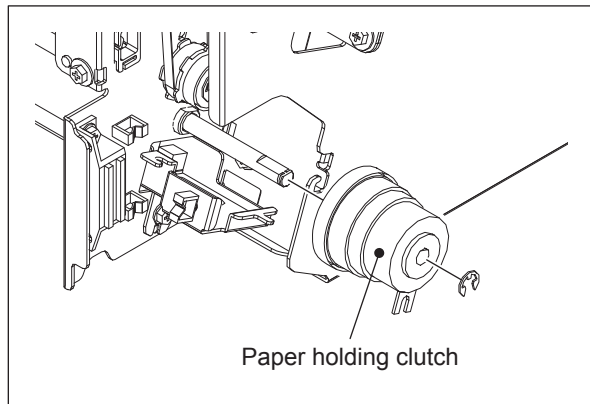



Fig. 4-229

[E] Catching solenoid (SOL1)

- (1) Take off the junction box unit.
 P.4-13 "[A] Junction box unit"
- (2) Disconnect the connector of the CN23 on the FIN board, and then release the harness out of 4 clamps.

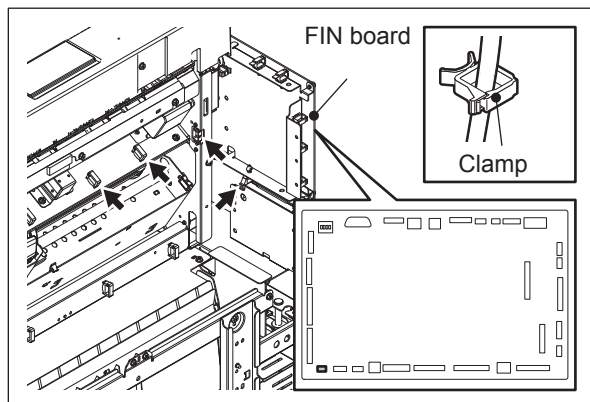


Fig. 4-230

- (3) Remove 2 screws, and then take off the catching solenoid.

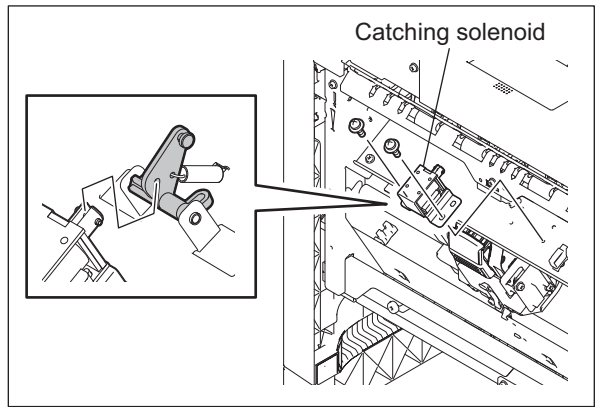



Fig. 4-231

[F] Buffer roller lift solenoid (SOL2) / Patting solenoid (SOL3)

- (1) Take off the stationary tray.
 P.4-1 "[A] Stationary tray"
- (2) Close the buffer unit-1.
- (3) Release the harness of the buffer roller lift solenoid and the patting solenoid out of 1 clamp, and then disconnect 2 relay connectors.

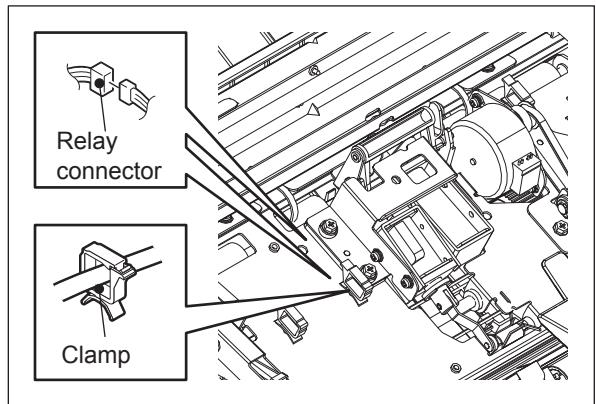


Fig. 4-232

- (4) Remove 3 screws, and then disconnect the plunger to take off the 3 spacers, 3 screw dampers, 2 solenoid dampers and solenoid sensor unit.

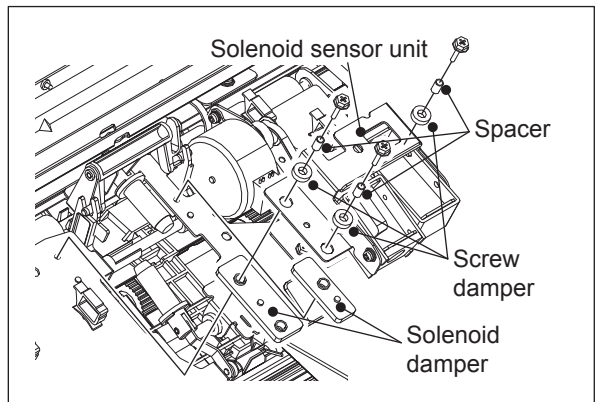


Fig. 4-233

- Buffer roller lift solenoid
 - Remove 2 screws, and then take off the buffer roller lift solenoid.

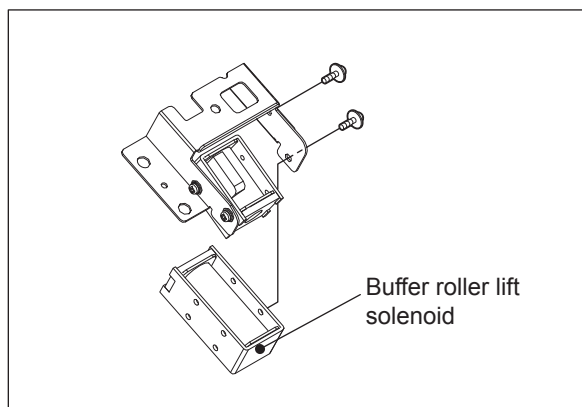


Fig. 4-234

- Patting solenoid
 - Remove 2 screws, and then take off the patting solenoid.

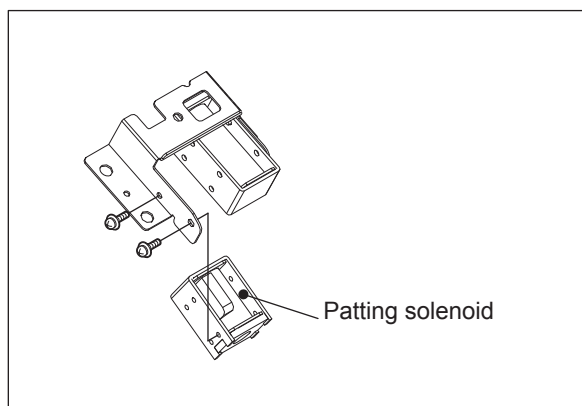


Fig. 4-235

[G] Gate solenoid (SOL4)

- (1) Take off the right upper cover.
 P.4-7 "[J] Right upper cover"
- (2) Remove 2 screws, and then take off the front bracket.
- (3) Remove 2 screws, and then take off the rear bracket.
- (4) Remove 2 screws, and then take off the junction box upper transport guide.

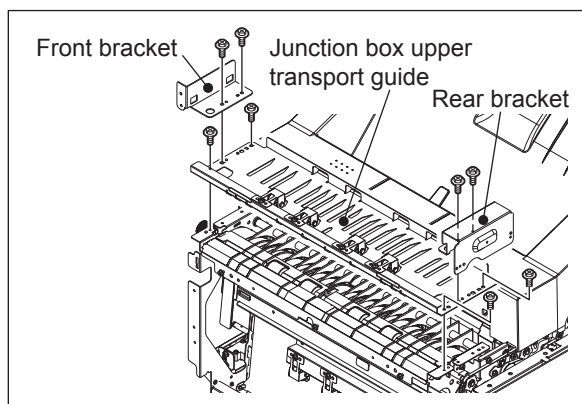


Fig. 4-236

- (5) Close the buffer unit-1 halfway and leave it. Then remove 1 screw.

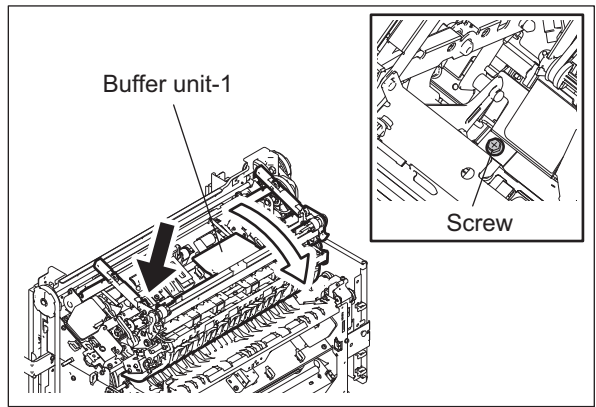


Fig. 4-237

- (6) Remove 3 screws, and then take off the .

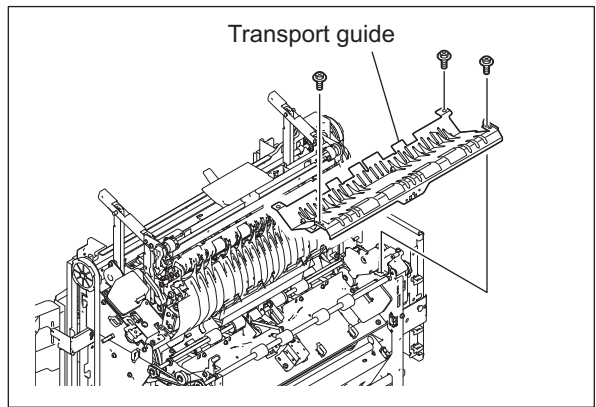


Fig. 4-238

- (7) Remove the spring.

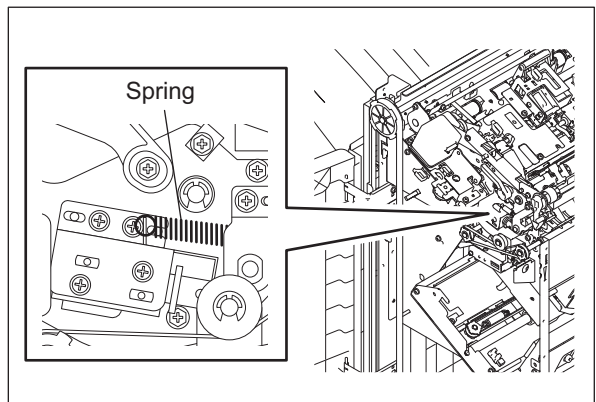


Fig. 4-239

- (8) Remove 2 screws, and then disconnect the relay connector and remove the arm to take off the bracket.

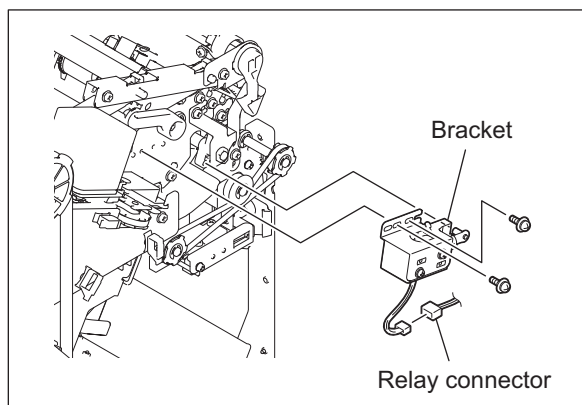


Fig. 4-240

Note:

When installing the gate solenoid, adjust the edge of the bracket to come at the mark on the scale one step left from the center as shown in the figure and fix it with 2 screws.

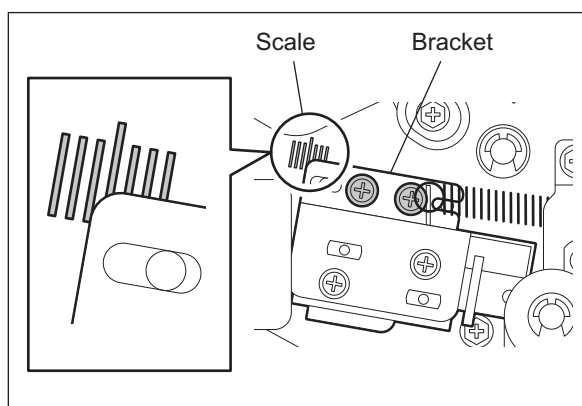


Fig. 4-241

- (9) Remove 2 screws, and then take off the gate solenoid.

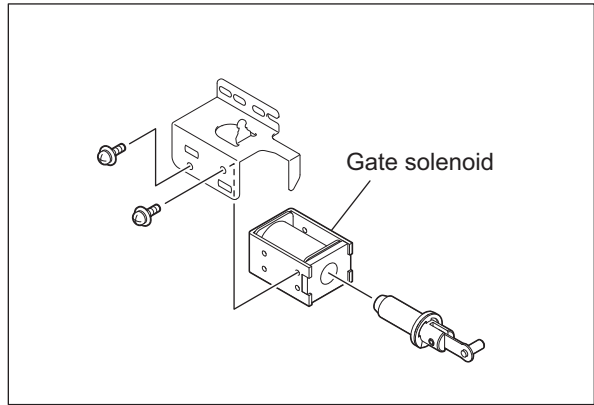


Fig. 4-242

Note:

When installing the gate solenoid, install the bracket with 2 screws as shown in the figure, and then fix it at the position where the gap between the gate flap and the shaft of the entrance roller falls within 0.4 to 0.8 mm.

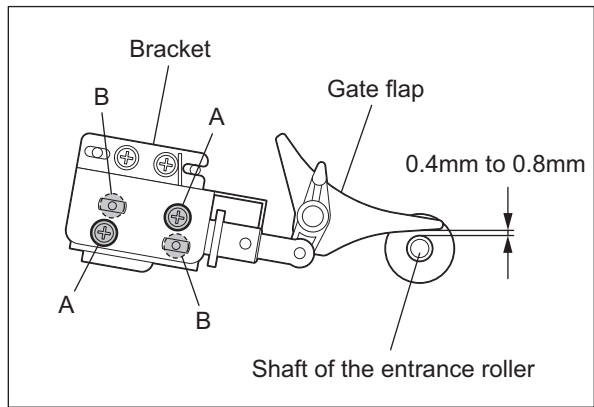


Fig. 4-243

[H] Transport path switching solenoid (SOL5) (MJ-1104)

- (1) Take off the right upper cover.
 P.4-7 "[J] Right upper cover"
- (2) Take off the relay guide, feeding discharge brush and right cover.
 P.4-7 "[K] Relay guide / Feeding discharge brush / Right cover"
- (3) Remove 4 screws of the FIN board bracket.

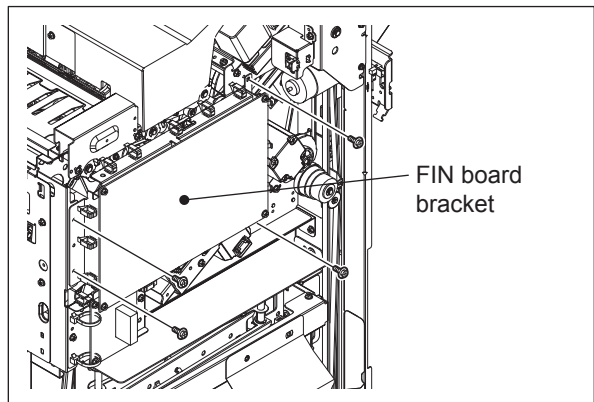


Fig. 4-244

- (4) Release the harness out of 1 clamp, and then disconnect each connector of CN6 and CN8 on the IF board.
- (5) Remove 2 screws of the IF board bracket.

Note:

When installing, screw the ground terminal together with the bracket.

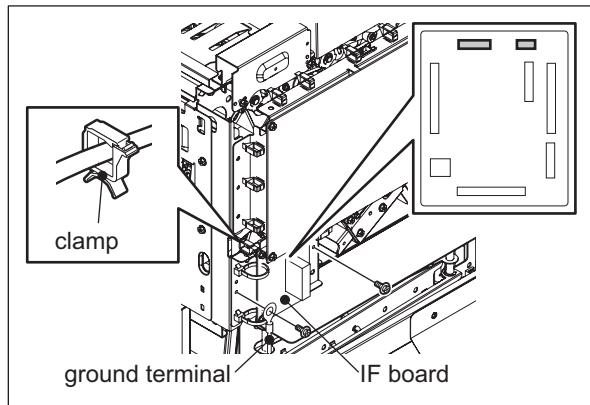


Fig. 4-245

- (6) Remove 2 screws, and then take off the front bracket.
- (7) Remove 2 screws, and then take off the rear bracket.
- (8) Remove 2 screws, and then take off the junction box upper transport guide.

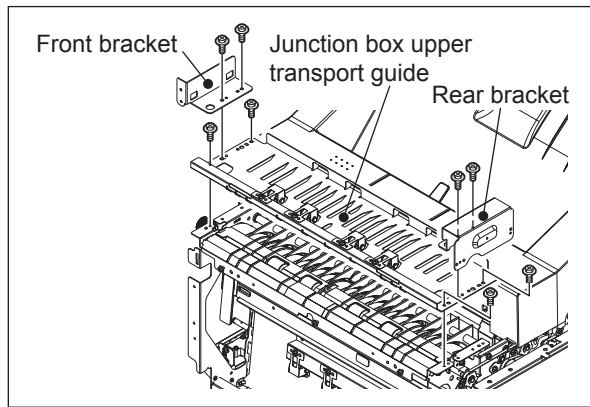


Fig. 4-246

- (9) Open the stationary tray.
- (10) Remove the spring, and then loosen 2 screws to free the belt tension.
- (11) Take off the belt.

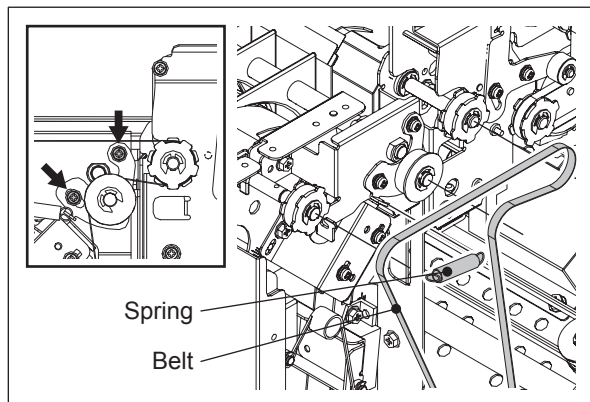


Fig. 4-247

- (12) Break binding wire at one position and disconnect the relay connector.

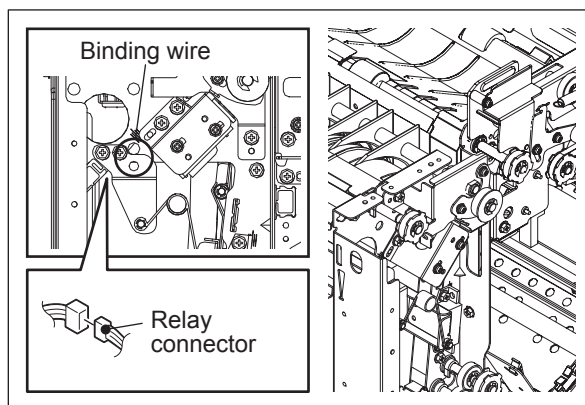


Fig. 4-248

- (13) Remove 2 screws, and remove the arm to take off the transport path switching solenoid.

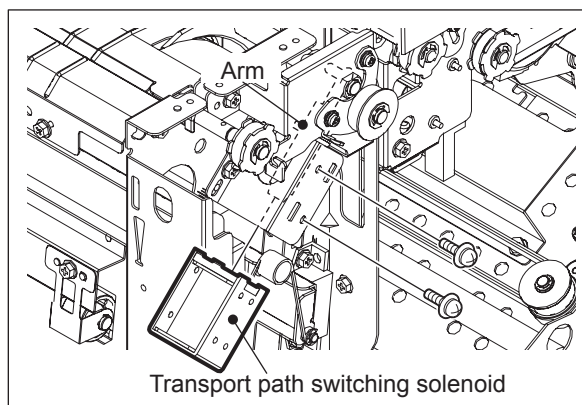


Fig. 4-249

Notes:

When installing, perform adjustment for both cases in which the solenoid is turned ON and OFF.

1. When the solenoid is turned OFF, the gap between the surface of the transport guide and the upper side of the flap edge must fall within 1.5 mm to 2.1 mm. Fix the solenoid with 2 screws.

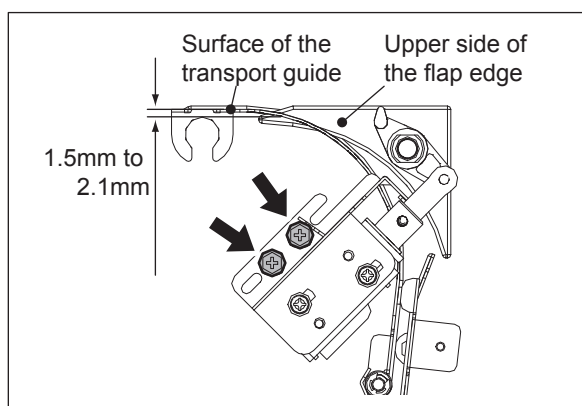


Fig. 4-250

2. When the solenoid is turned ON, the gap between the surface of the transport guide and the upper side of the flap edge must fall within 2.3 mm to 2.9 mm. Fix the solenoid with 2 screws.

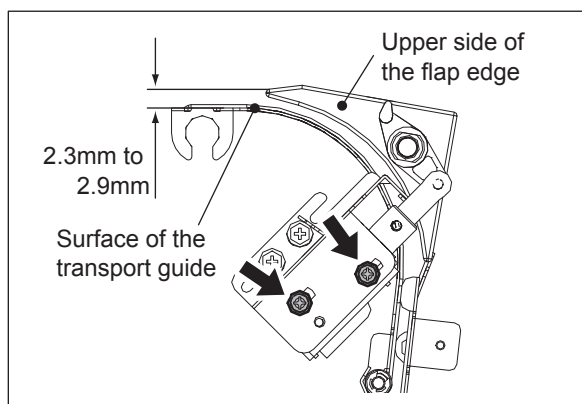


Fig. 4-251

[I] Assisting roller solenoid (SOL6) (MJ-1104)

- (1) Take off the stacker unit.
P.4-37 "[H] Stacker unit"
- (2) Take off the paper holding unit.
P.4-29 "[C] Paper holding unit"
- (3) Remove 4 screws of the stacker guide.

Note:

Be careful not to damage the harness fixed on the back side of the stacker guide with a clamp.

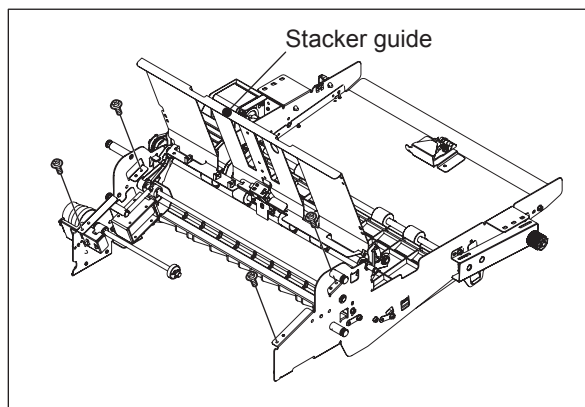


Fig. 4-252

- (4) Release the harness out of 2 clamps, and then disconnect the relay connector.

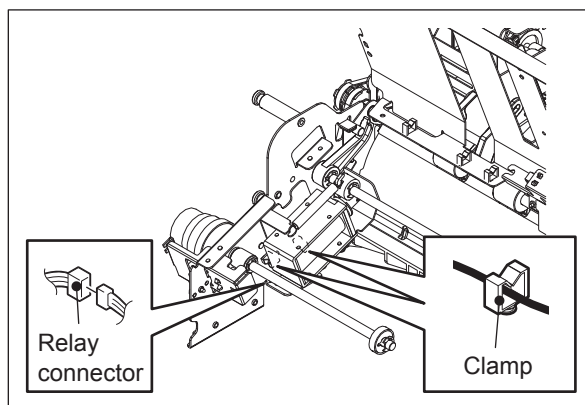


Fig. 4-253

- (5) Take off the spring.
- (6) Remove 2 screws, and then take off the assisting roller solenoid.

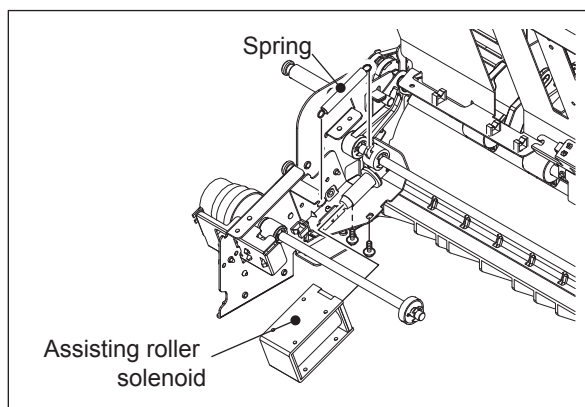


Fig. 4-254

4.9 Sensors / Switches (Finisher section)

[A] Entrance sensor (S1)

- (1) Take off the stationary tray.
P.4-1 "[A] Stationary tray"
- (2) Remove 1 screw, and then disconnect the connector to take off the sensor bracket.

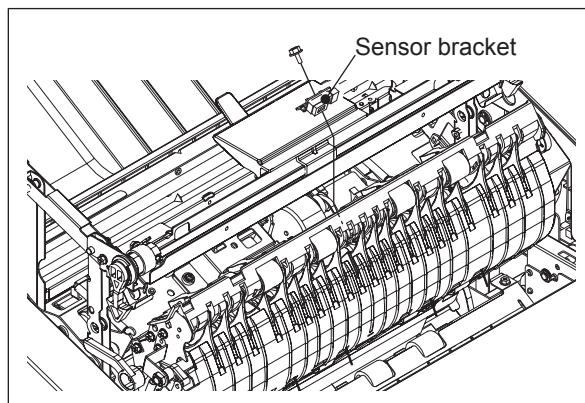


Fig. 4-255

- (3) Release the latch, and then take off the entrance sensor.

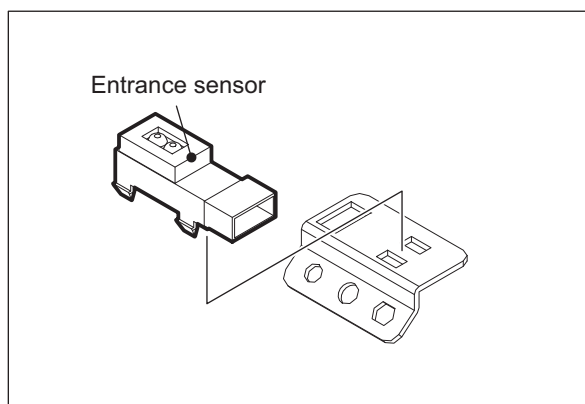


Fig. 4-256

[B] Transport sensor (S2)

- (1) Take off the stationary tray.
P.4-1 "[A] Stationary tray"
- (2) Close the buffer unit-1.
- (3) Release the latch while lifting up the actuator, and then disconnect the connector to take off the transport sensor.

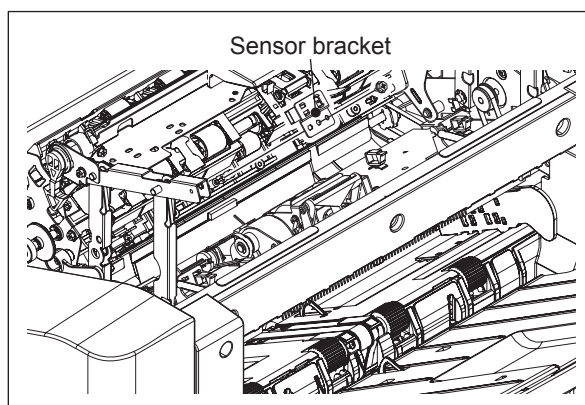


Fig. 4-257

- (4) Release the latch, and then take off the transport sensor.

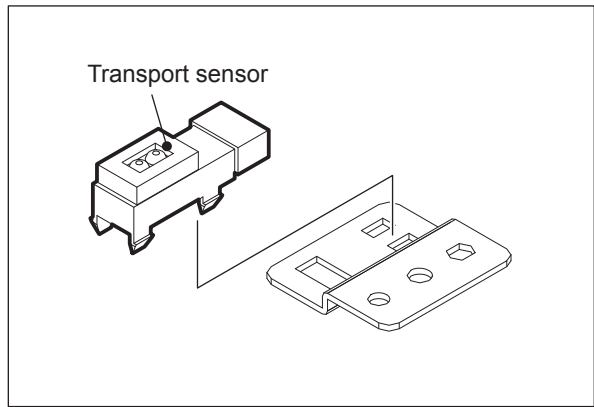


Fig. 4-258

[C] Paddle home position sensor (S3)

- (1) Take off the rear cover.
P.4-6 "[G] Rear cover"
- (2) Disconnect all the connectors of the FIN board and then release the harness from the clamp.
- (3) Remove 4 screws from the FIN board bracket.

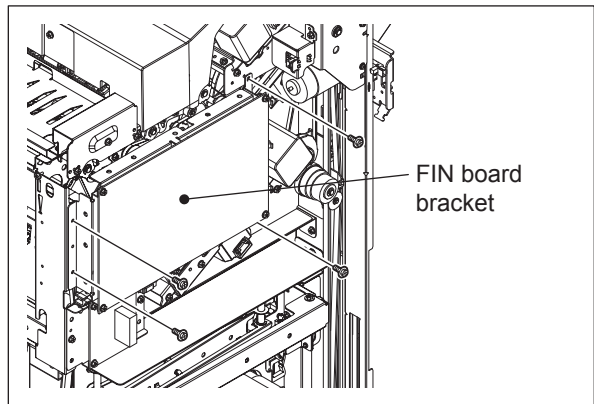


Fig. 4-259

- (4) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

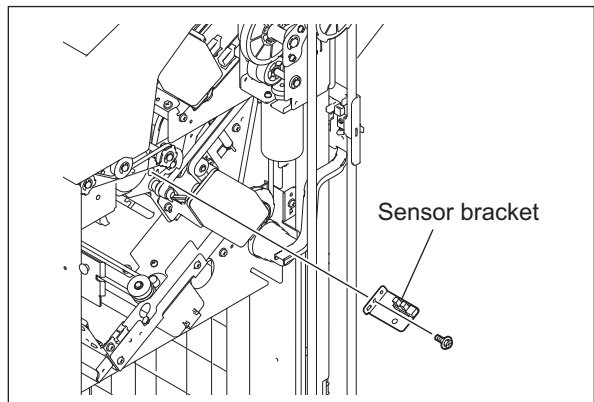


Fig. 4-260

- (5) Release the latch, and then take off the paddle home position sensor.

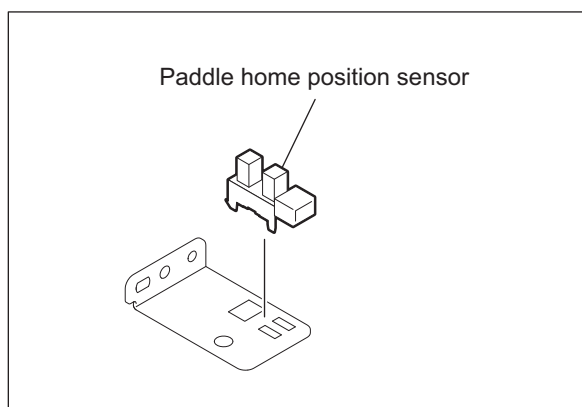


Fig. 4-261

[D] Shutter opening / closing sensor (S4)

- (1) Take off the grate-shaped guide.
 P.4-10 "[N] Grate-shaped guide"
- (2) Release the latch, and then disconnect the connector to take off the shutter opening / closing sensor.

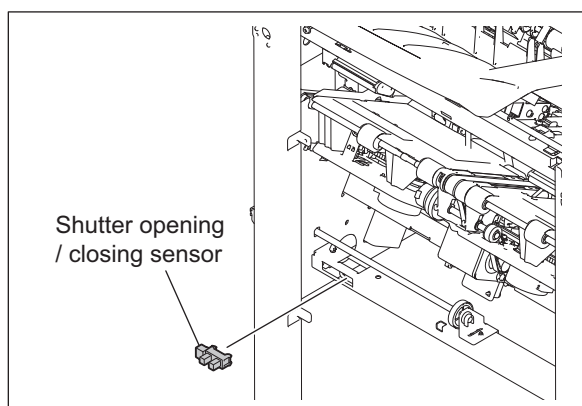


Fig. 4-262

[E] Buffer tray home position sensor (S5)

- (1) Take off the buffer unit.
 P.4-15 "[B] Buffer unit"
- (2) Remove 2 screws to take off the rear side frame.

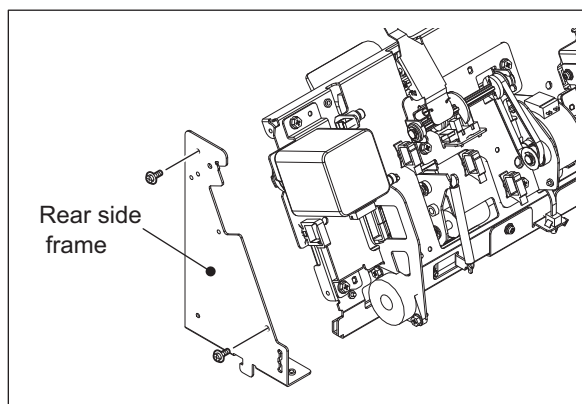


Fig. 4-263

- (3) Move each buffer guide to each end while pressing the buffer roller.

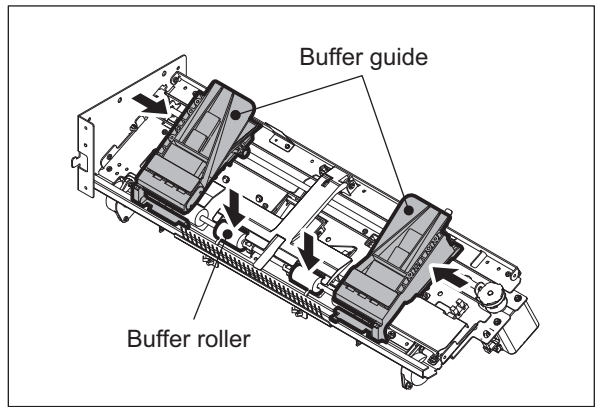


Fig. 4-264

- (4) Remove 3 screws, and then take off the bracket.

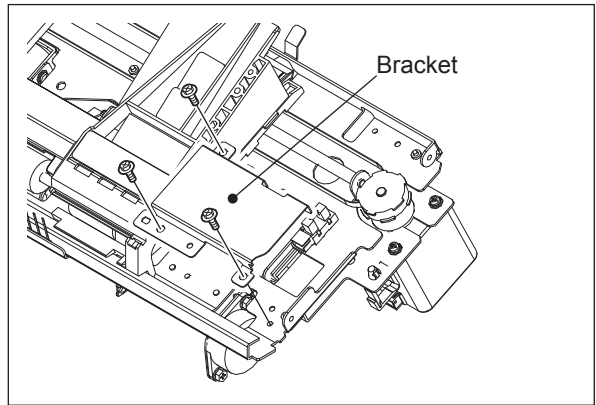


Fig. 4-265

- (5) Disconnect the connector, and then release the latch to take off the buffer tray home position sensor.

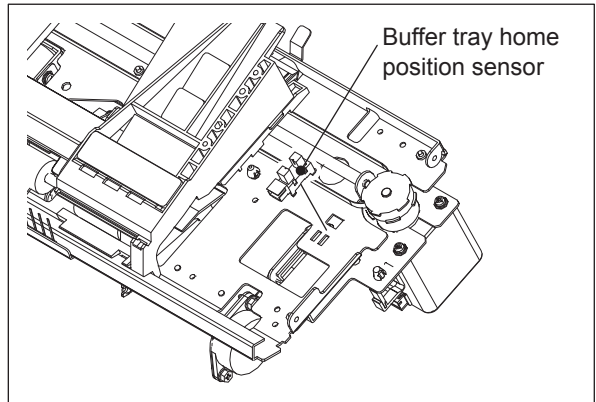



Fig. 4-266

[F] Paper pusher home position sensor (S6)

- (1) Take off the stationary tray.
 P.4-1 "[A] Stationary tray"
- (2) Close the buffer unit-1.
- (3) Remove 2 E-rings, and then take off the bushing to remove the paper pusher cam while pressing the paper pusher plate.

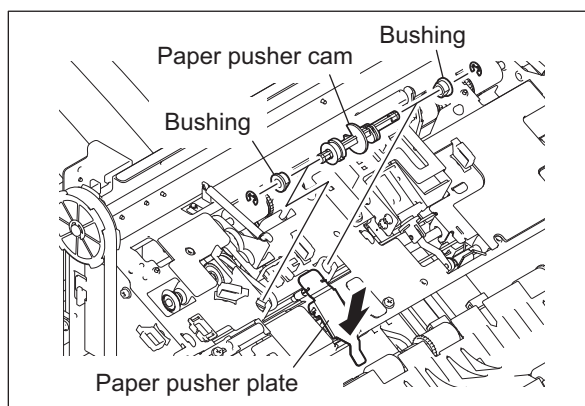


Fig. 4-267

- (4) Release the latch, and then disconnect the connector to take off the paper pusher home position sensor while pressing the paper pusher plate.

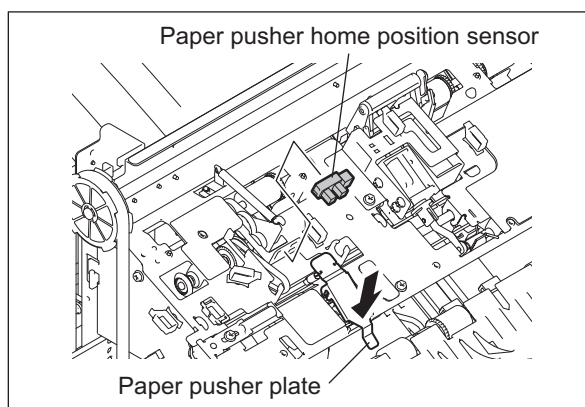



Fig. 4-268

[G] Front alignment plate home position sensor (S7)

- (1) Take off the grate-shaped guide.
 P.4-10 "[N] Grate-shaped guide"
- (2) Release the latch, and then disconnect the connector to take off the front alignment plate home position sensor.

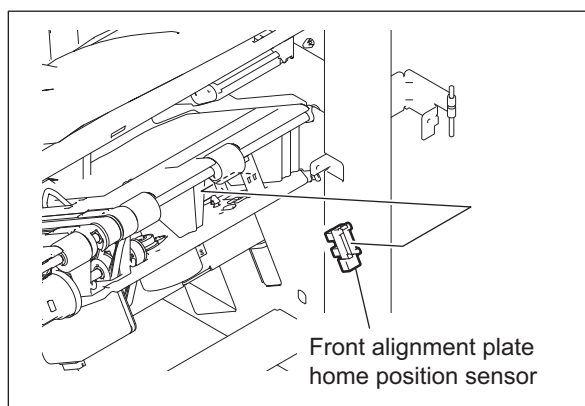


Fig. 4-269

[H] Rear alignment plate home position sensor (S8)

- (1) Take off the grate-shaped guide.
P.4-10 "[N] Grate-shaped guide"
- (2) Release the latch, and then disconnect the connector to take off the rear alignment plate home position sensor.

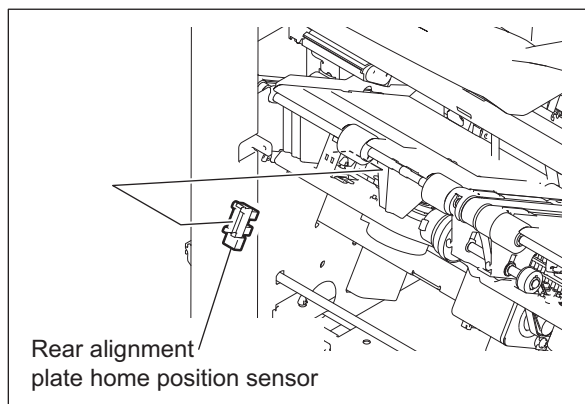


Fig. 4-270

[I] Stack exit belt home position sensor (S9)

- (1) Take off the finishing tray unit.
P.4-19 "[D] Finishing tray unit"
- (2) Remove 3 screws, and then take off the front finishing tray cover.

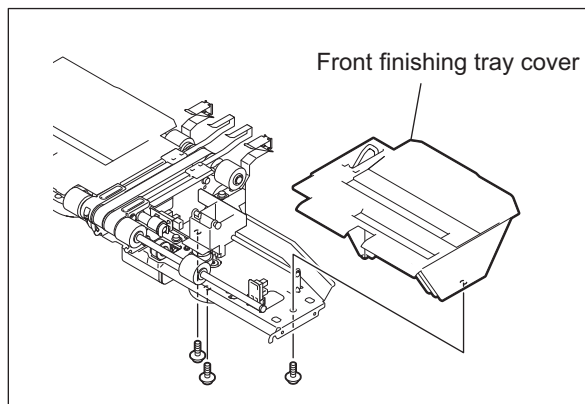


Fig. 4-271

- (3) Remove 3 screws, and then take off the rear finishing tray cover.

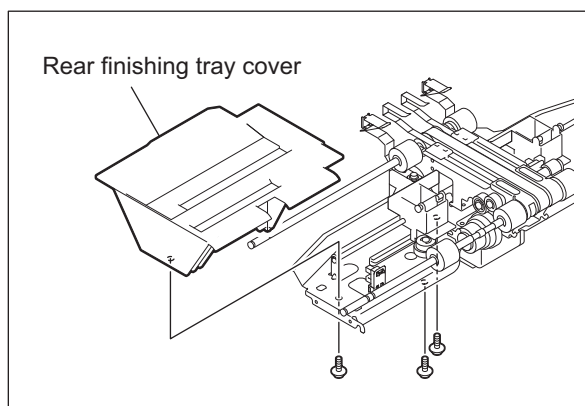


Fig. 4-272

- (4) Take off the belt from the stack transport motor.

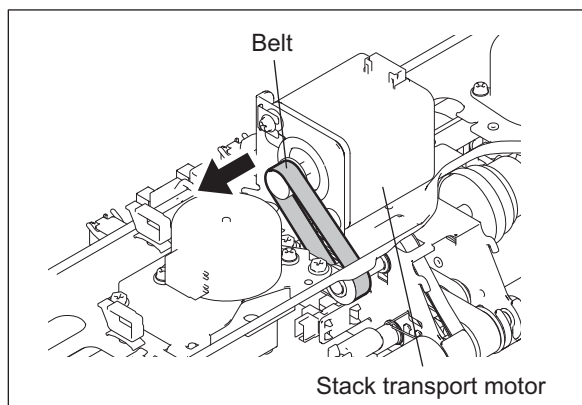


Fig. 4-273

- (5) Remove 3 screws, and then disconnect each connector of the finishing tray paper detection sensor and the stack exit belt home position sensor and the relay connector of the paper exit guide clutch. Then take off the stack exit belt unit.

Notes:

- Be sure not to lose the belt.
- When installing the stack transport belt unit, attach the rotation protection of the paper exit guide clutch.

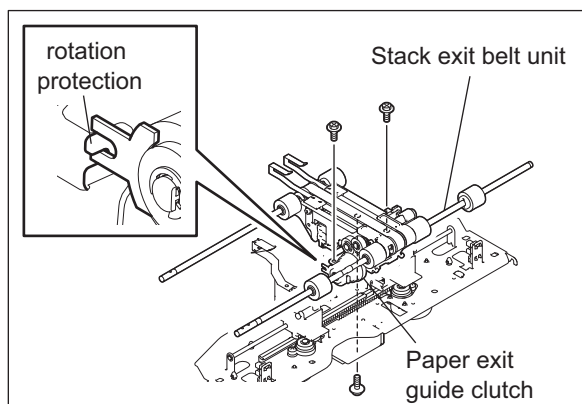


Fig. 4-274

- (6) Remove 1 screw, and then take off the sensor bracket.

Note:

When taking off the sensor bracket, the actuator and the spring are also taken off. Be sure not to lose the actuator and the spring.

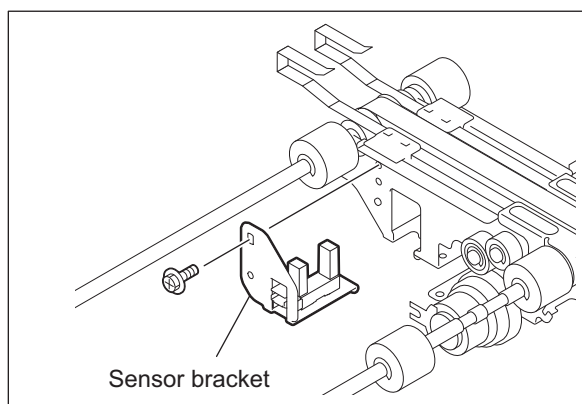


Fig. 4-275

- (7) Release the latch, and then take off the stack exit belt home position sensor.

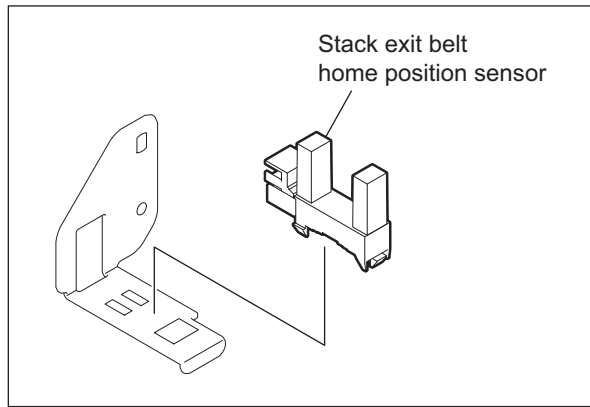


Fig. 4-276

[J] Stapler unit home position sensor (S10)

- (1) Open the front cover (MJ-1103) or the front upper cover (MJ-1104).
- (2) Move the stapler to the position where the stapler unit home position sensor is seen.
- (3) Release the latch, and then disconnect the connector to take off the stapler unit home position sensor.

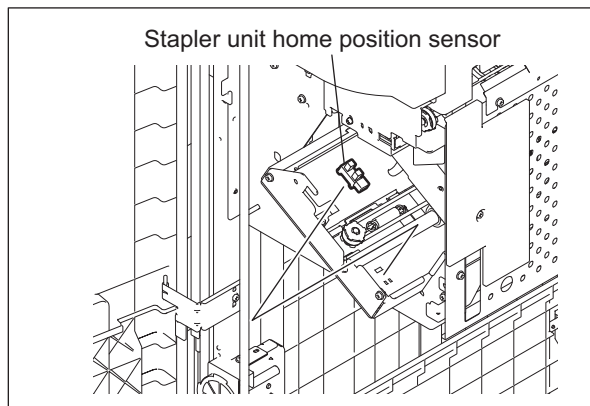


Fig. 4-277

[K] Stapler interference sensor (S11) / Actuator

- (1) Take off the stapler.
P.4-22 "[E] Stapler"
- (2) Release the latch, and then disconnect the connector to take off the stapler interference sensor.

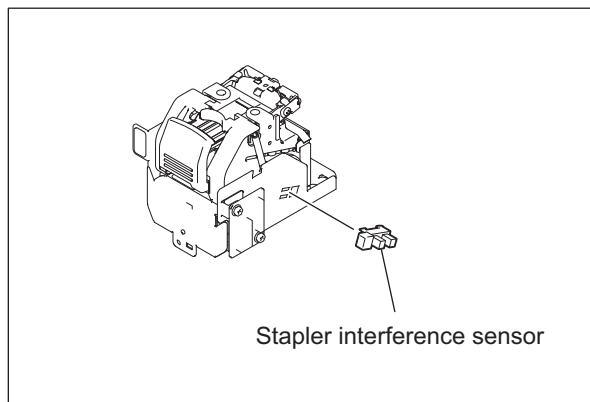


Fig. 4-278

- (3) Remove the clip, and then take off the stapler base frame.

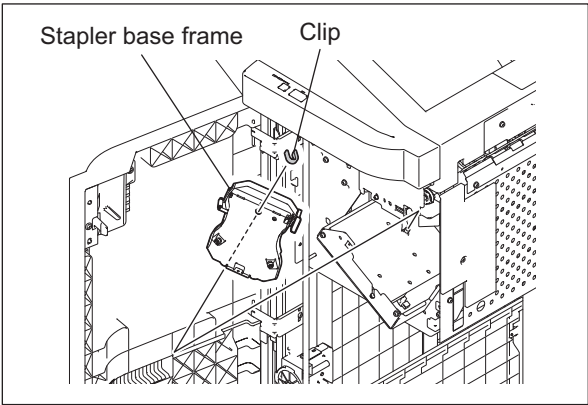


Fig. 4-279

- (4) Remove the spring, and then remove the clip to take off the actuator.

Note:
When installing the actuator, be sure to insert the clip from the side of the actuator.

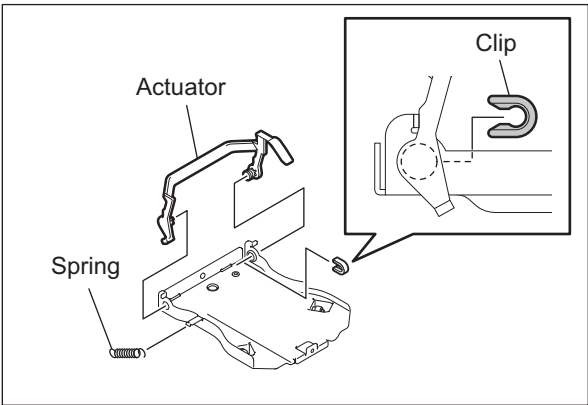


Fig. 4-280

[L] Finishing tray paper detection sensor (S12)

- (1) Take off the finishing unit.
P.4-19 "[D] Finishing tray unit"
- (2) Remove 3 screws, and then take off the front finishing tray cover.

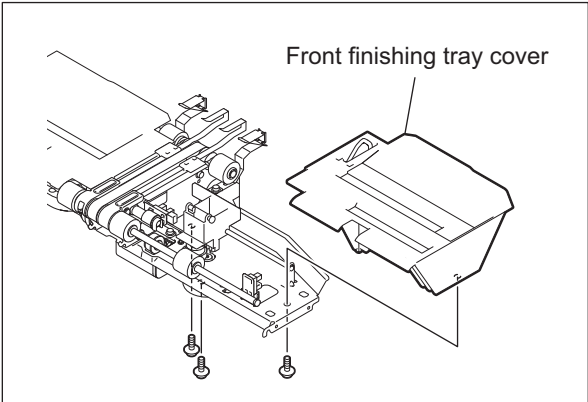


Fig. 4-281

- (3) Move the front alignment plate guide in the direction of the arrow.
- (4) Release the latch, and then disconnect the connector to take off the finishing tray paper detection sensor.

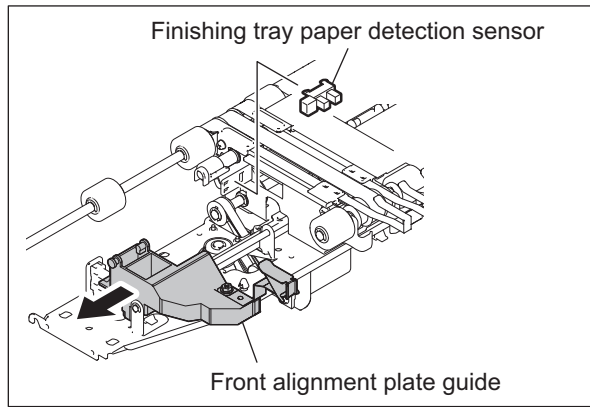


Fig. 4-282

[M] Movable tray position-a sensor (S13) / Movable tray position-B sensor (S14) / Movable tray position-c sensor (S15)

- (1) Take off the rear cover.
 P.4-6 "[G] Rear cover"
- (2) Move the movable tray shift frame to the middle position. If the movable tray shift frame needs to be lowered, push the gear of the movable tray shift motor unit in the direction of the arrow to unlock the frame. (Be sure to hold the movable tray gear frame with your hands because it may fall when the gear is pushed.)

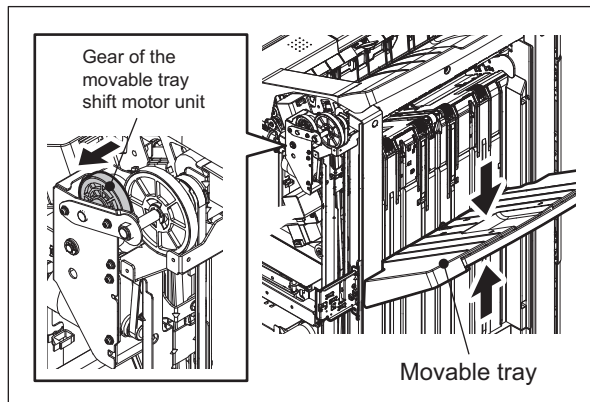


Fig. 4-283

- (3) Remove 2 screws, and then take off the sensor rail.

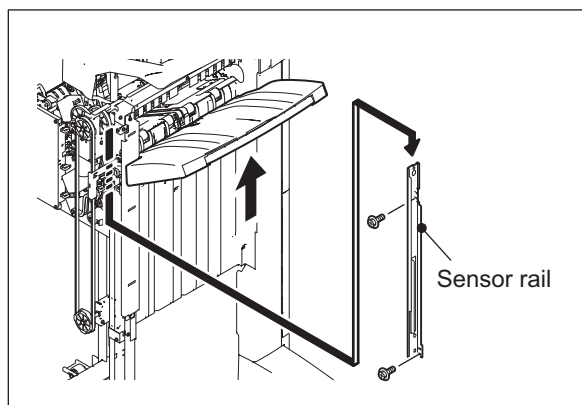


Fig. 4-284

Note:

When installing the movable tray drive unit, fix it at the position where the gap between the center mark of the scale on the sensor rail and the edge of the movable tray position-a sensor is from 0 to 1 mm. Be sure to adjust the installation position by shifting the movable tray shift frame and measure the positions at the upper and lower measuring points on the sensor rail as shown in the figure.

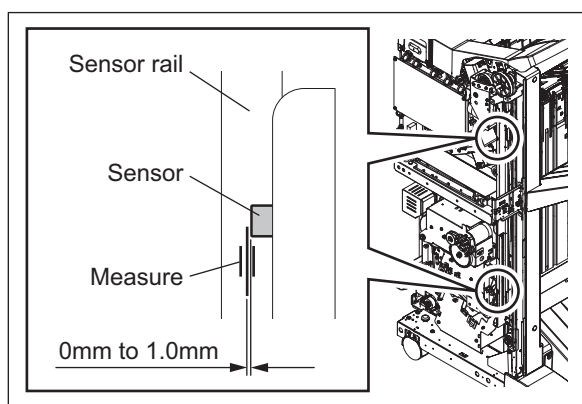


Fig. 4-285

- (4) Release the latch, and then disconnect the connectors to take off the movable tray position-a sensor, movable tray position-B sensor and movable tray position-c sensor.

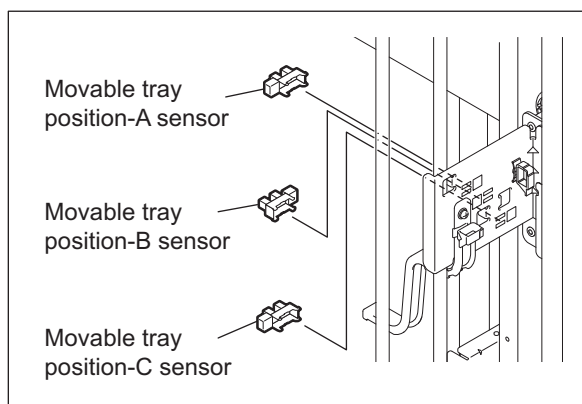


Fig. 4-286

[N] Movable tray paper-full sensor (S16)

- (1) Take off the grate-shaped guide.
P.4-10 "[N] Grate-shaped guide"
- (2) Move the shutter upward.
- (3) Release the latch, and then disconnect the connector to take off the movable tray paper-full sensor.

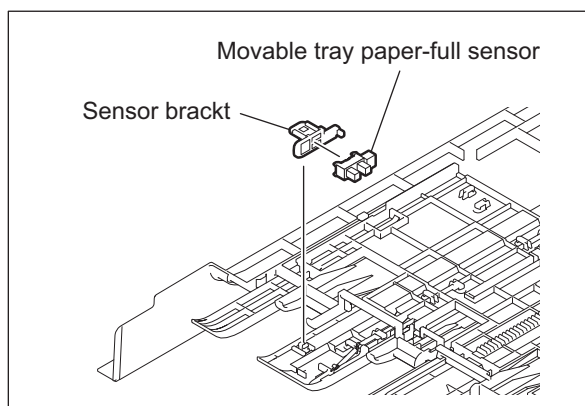


Fig. 4-287

[O] Movable tray paper exist sensor (S17)

- (1) Take off the movable tray.
P.4-2 "[B] Movable tray"
- (2) Disconnect the connector of the movable tray paper exist sensor.
- (3) Release the latch, and then take off the movable tray paper exist sensor.

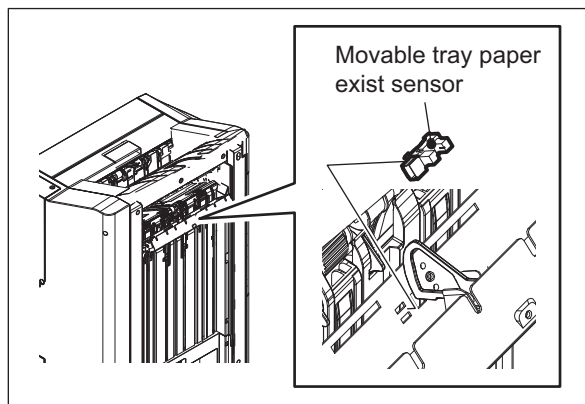


Fig. 4-288

[P] Stationary tray paper-full sensor (S18)

- (1) Take off the stationary tray.
P.4-1 "[A] Stationary tray"
- (2) Hold up the jam access lever. Then remove 1 screw and disconnect the connector to take off the bracket.

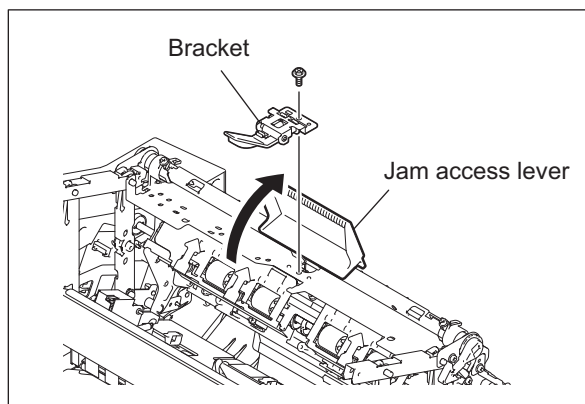


Fig. 4-289

- (3) Remove 1 screw, and then take off the actuator and the spacer.

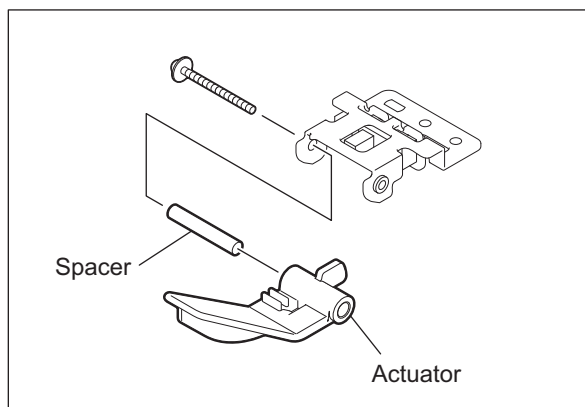


Fig. 4-290

- (4) Release the latch, and then take off the stationary tray paper-full sensor.

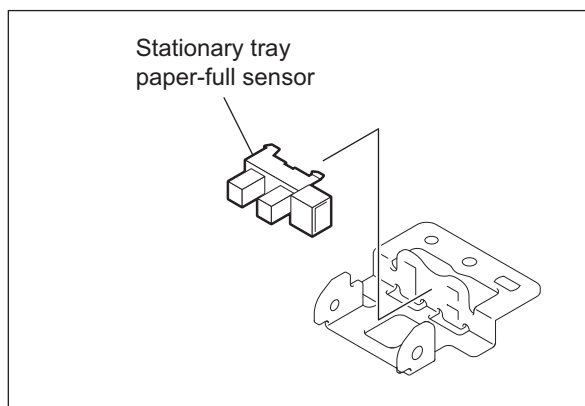


Fig. 4-291

[Q] Feeding sensor (S22)

- (1) Take off the relay guide, feeding discharge brush and right cover.
 P.4-7 "[K] Relay guide / Feeding discharge brush / Right cover"
- (2) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

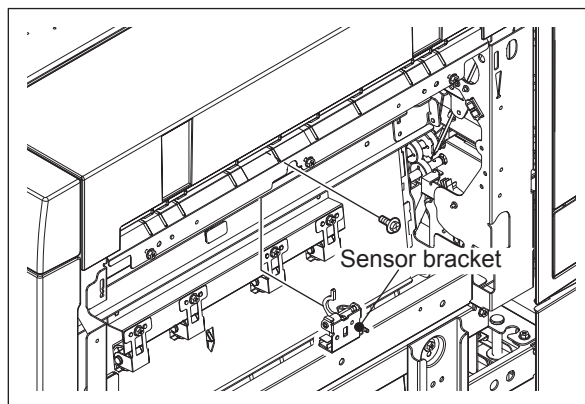


Fig. 4-292

- (3) Release the latch, and then take off the feeding sensor.

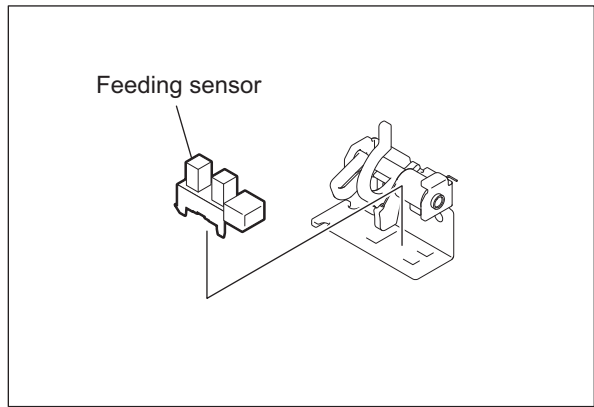


Fig. 4-293

[R] Movable tray shift motor sensor (S23)

- (1) Take off the rear cover.
P.4-6 "[G] Rear cover"
- (2) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

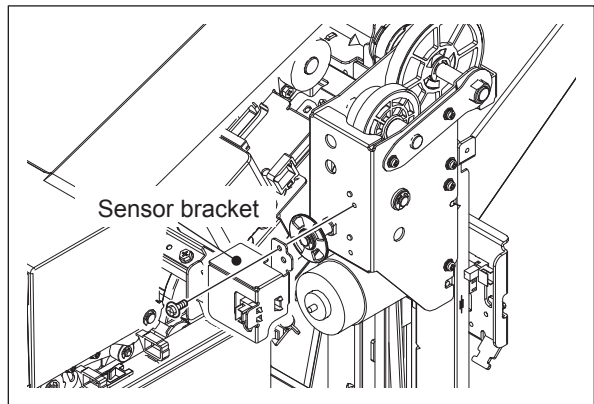


Fig. 4-294

- (3) Release the latch, and then take off the movable tray shift motor sensor.

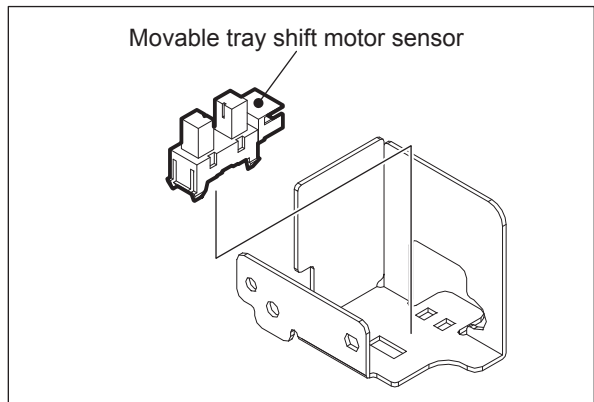



Fig. 4-295

[S] Connection sensor (S25)

- (1) Take off the right cover.
 P.4-7 "[K] Relay guide / Feeding discharge brush / Right cover"
- (2) Release the latch, and then disconnect the connector to take off the connection sensor.

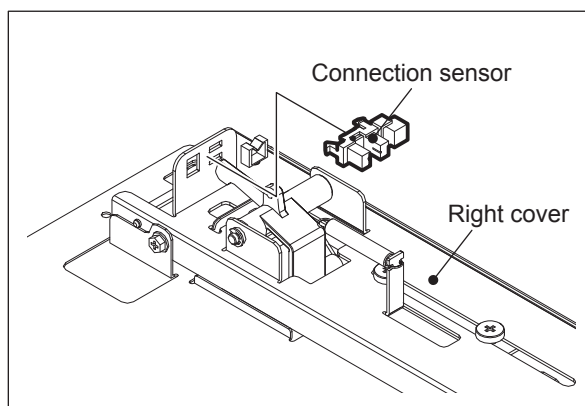



Fig. 4-296

[T] Front cover switch (SW1)

- (1) Open the front cover (MJ-1103) or the front upper cover (MJ-1104).
 P.4-6 "[G] Rear cover"
- (2) Remove 2 screws, and then disconnect the connector and then take off the switch bracket.

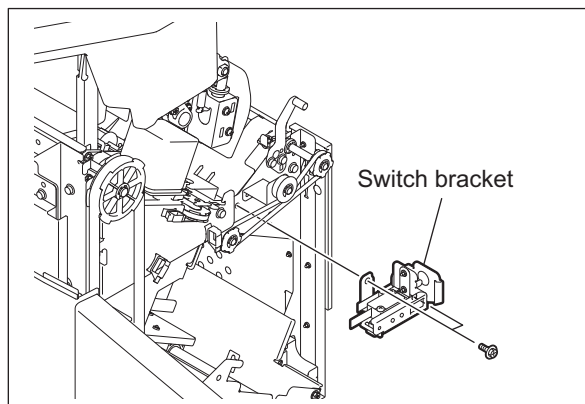


Fig. 4-297

- (3) Remove 2 screws, and then take off the front cover switch.

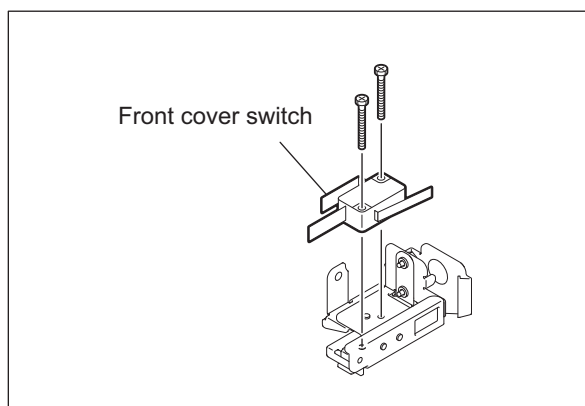


Fig. 4-298

[U] Stationary tray opening/closing switch (SW2)

- (1) Take off the junction box unit.
P.4-13 "[A] Junction box unit"
- (2) Release the harness out of 4 clamps.

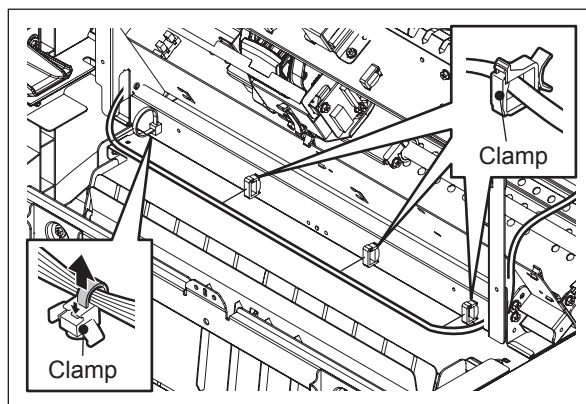


Fig. 4-299

- (3) Release the harness out of 3 clamps, and then disconnect each connector of CN7 on the FIN board.

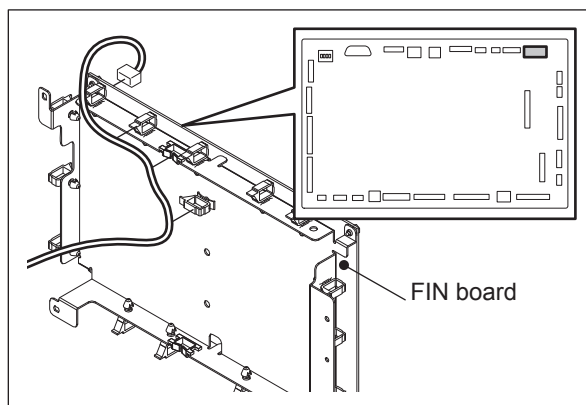


Fig. 4-300

- (4) Remove 2 screws, and then take off the belt tension arm, spring and belt.

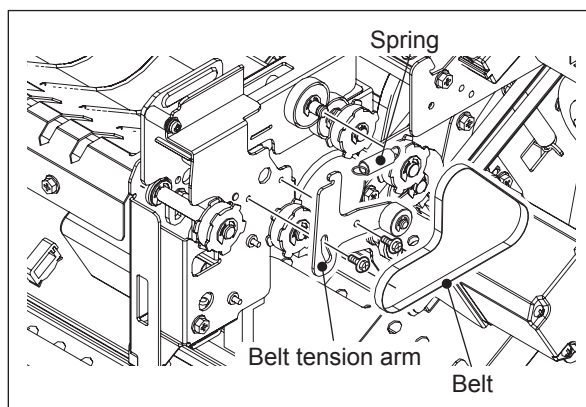


Fig. 4-301

- (5) Remove 4 screws, and then take off the switch bracket.

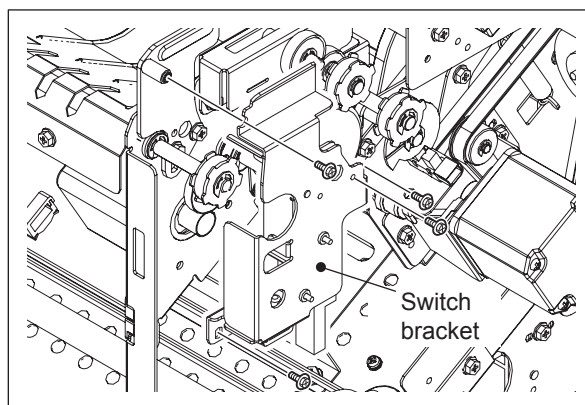


Fig. 4-302

- (6) Remove 2 screws, and then take off the stationary tray opening/closing switch.

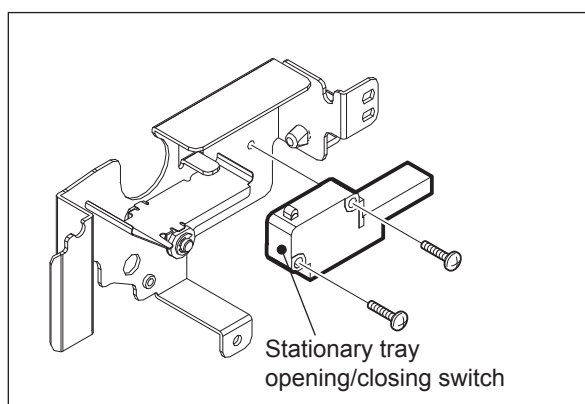


Fig. 4-303

[V] Stapler interference switch (SW3)

- (1) Take off the rear cover.
 P.4-6 "[G] Rear cover"
- (2) Take off the grate-shaped guide.
 P.4-10 "[N] Grate-shaped guide"
- (3) Release the harness out of 3 clamps, and then disconnect the connector of CN19 on the FIN board.

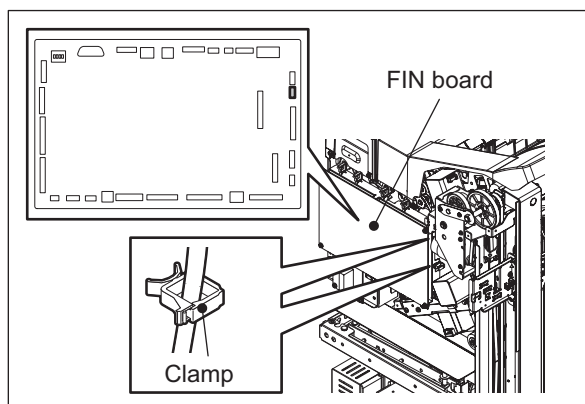


Fig. 4-304

- (4) Remove 4 screws, and then take off the upper saddle cover.

Remark:

In the case of MJ-1104, open the front upper cover and pull out the saddle unit before starting the operation.

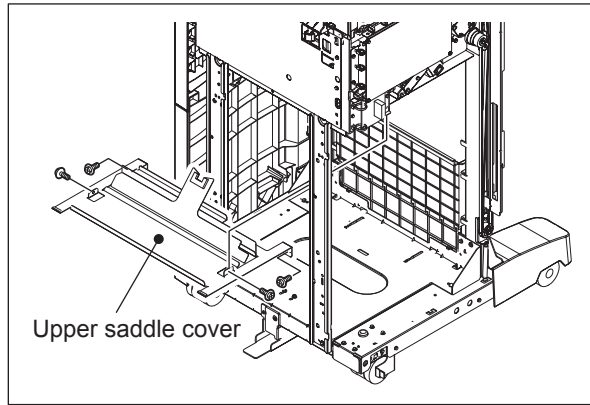


Fig. 4-305

- (5) Remove 2 screws, and then take off the stapler interference switch.

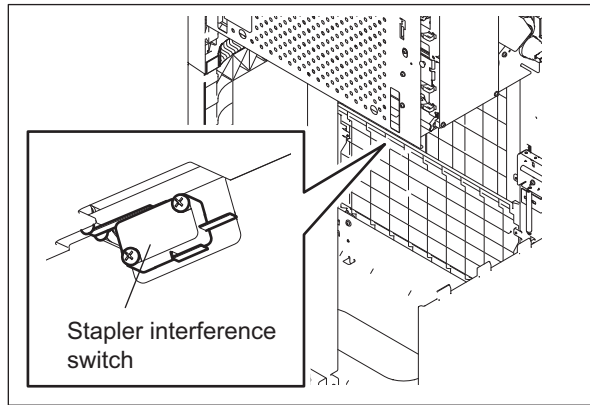


Fig. 4-306

[W] Connection switch (SW4)

- (1) Take off the right upper cover.
 P.4-7 "[J] Right upper cover"
- (2) Take off the relay guide, feeding discharge brush and right cover.
 P.4-7 "[K] Relay guide / Feeding discharge brush / Right cover"
- (3) Remove 4 screws from the FIN board bracket

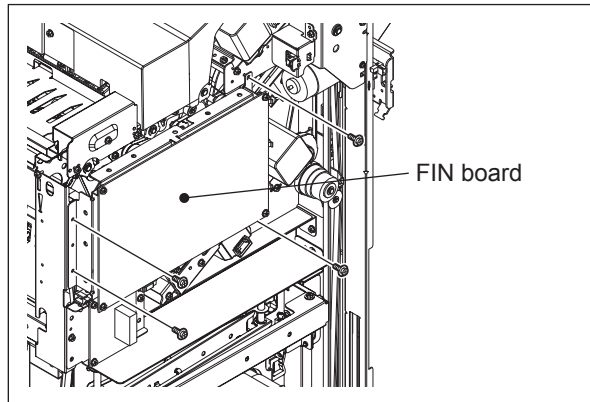


Fig. 4-307

- (4) Release the harness out of 1 clamp, and then disconnect each connector of CN6 and CN8 on the IF board.
- (5) Remove 2 screws of the IF board bracket.

Note:

When installing, screw the ground terminal together with the bracket.

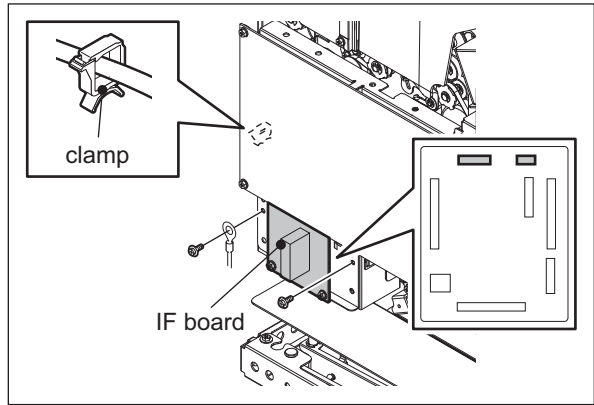


Fig. 4-308

- (6) Take off the 1 spring.
- (7) Remove 1 screw, and then take off the sensor bracket of the connection switch.
- (8) Release the harness out of 2 clamps.

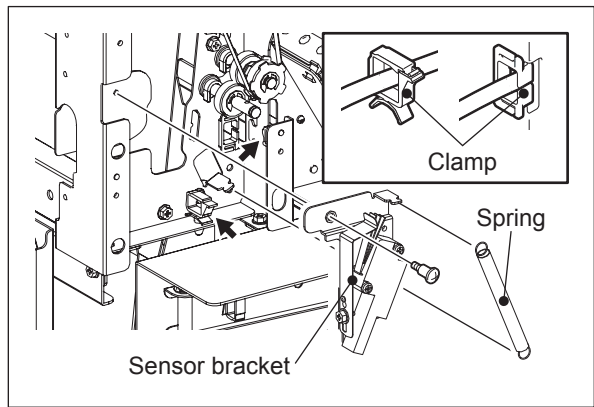


Fig. 4-309

- (9) Remove 2 screws, and then take off the connection switch.

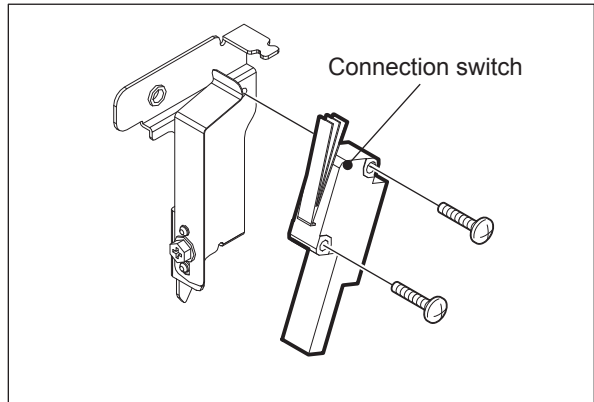


Fig. 4-310

4.10 Sensors / Switches (Saddle section: MJ-1104)

[A] Junction box paper detection sensor (S26)

- (1) Take off the junction box unit.
P.4-13 "[A] Junction box unit"
- (2) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

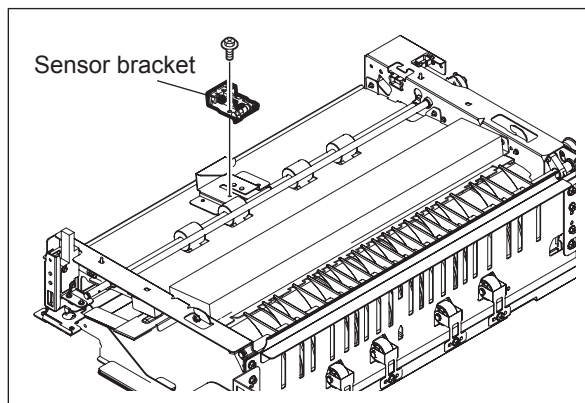


Fig. 4-311

- (3) Release the latch, and then take off the junction box paper detection sensor.

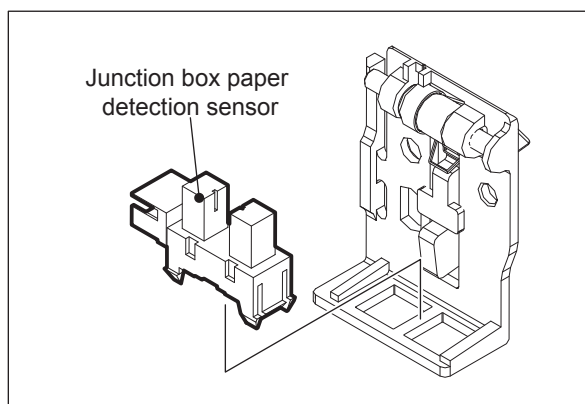


Fig. 4-312

[B] Transport path-2 sensor (S27)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 4 screws, and then take off the upper safety cover.

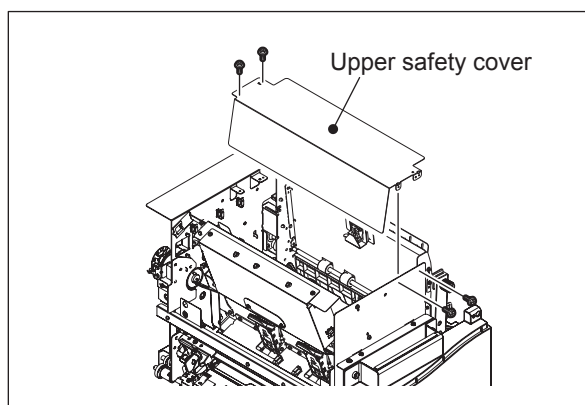


Fig. 4-313

- (3) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

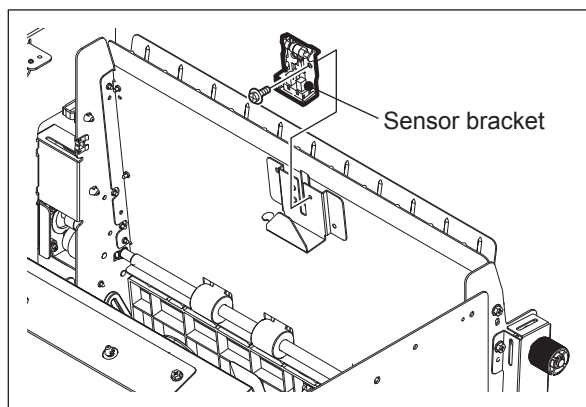


Fig. 4-314

- (4) Release the latch, and then take off the transport path-2 sensor.

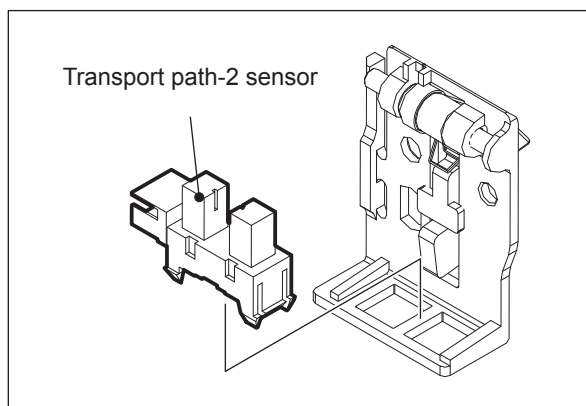


Fig. 4-315

[C] Transport path-3 sensor (S28)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Open the transport guide of right side.
- (3) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

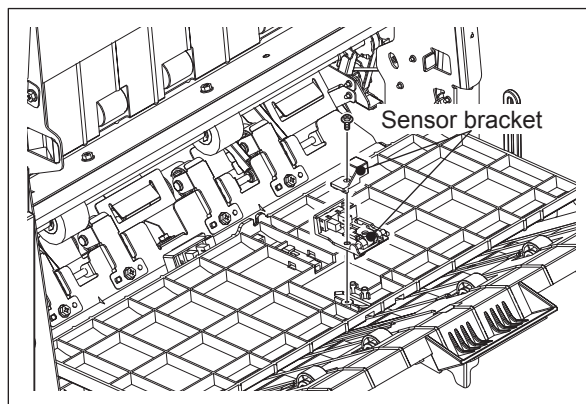


Fig. 4-316

- (4) Release the latch, and then take off the transport path-3 sensor.

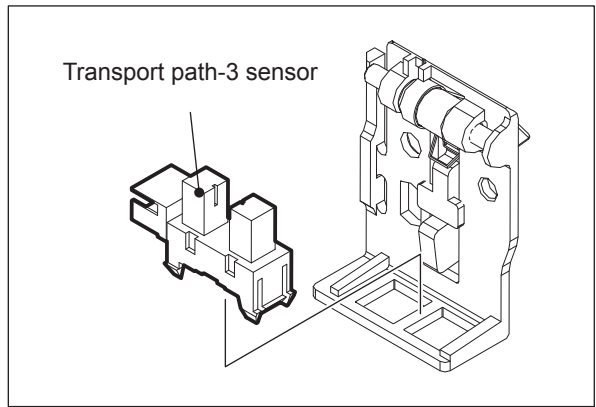


Fig. 4-317

[D] Ejecting roller sensor (S29)

- (1) Open the front upper cover and then pull out the saddle unit.
(2) Open the transport guide of right side.
(3) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

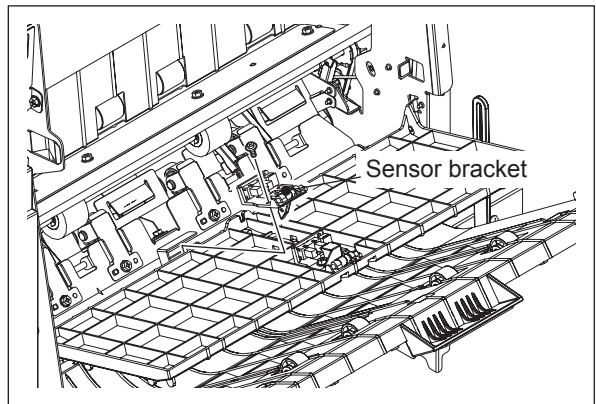


Fig. 4-318

- (4) Release the latch, and then take off the ejecting roller sensor.

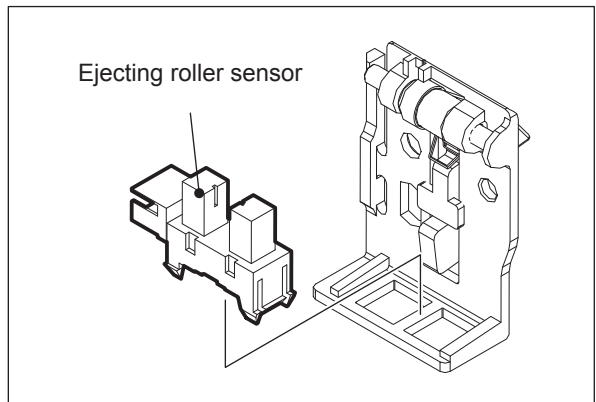


Fig. 4-319

[E] Stacker paper detection sensor (S30)

- (1) Take off the switchback unit.
P.4-28 "[B] Switchback unit"
- (2) Take off the paper holding unit.
P.4-29 "[C] Paper holding unit"
- (3) Remove 2 screws of the stacker guide.

Note:

Be careful not to damage the harness fixed on the back side of the stacker guide with a clamp.

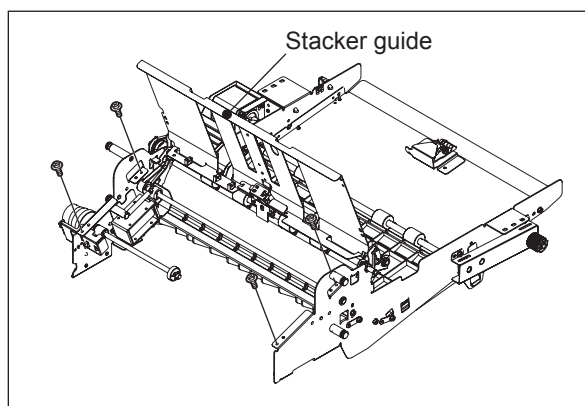


Fig. 4-320

- (4) Release the harness out of 3 clamps.
- (5) Remove 2 screws, and take off the sensor bracket.

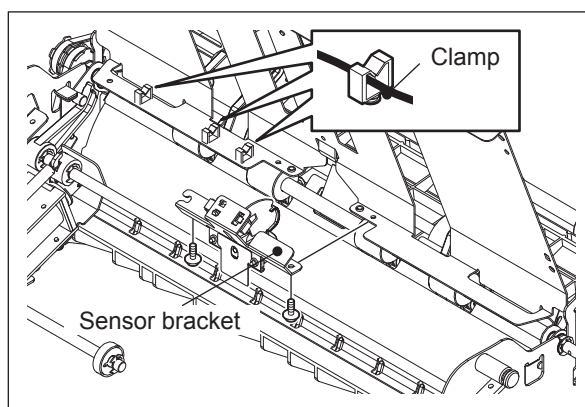


Fig. 4-321

- (6) Release the latch, and then take off the stacker paper detection sensor.

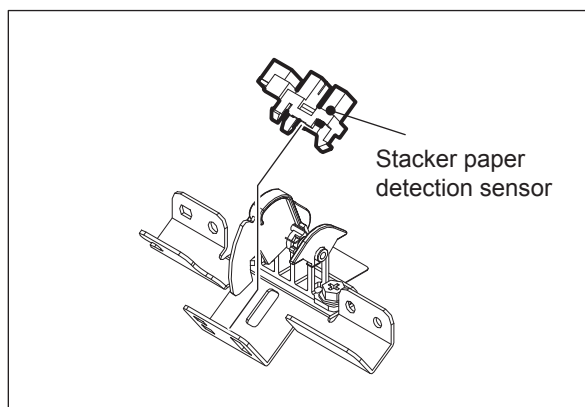


Fig. 4-322

[F] Exit sensor (S31)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

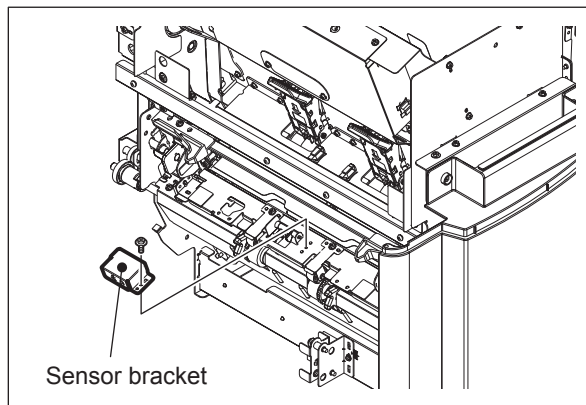


Fig. 4-323

- (3) Release the latch, and then take off the exit sensor.

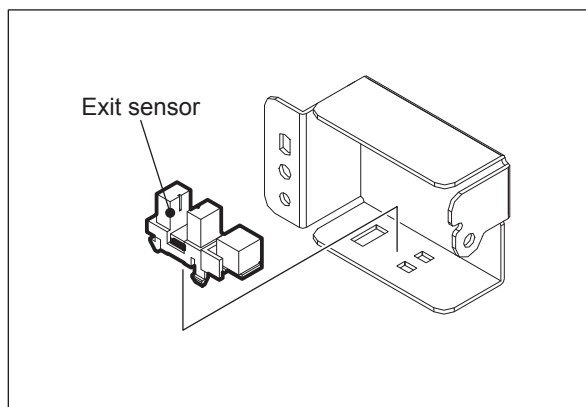


Fig. 4-324

[G] Saddle tray paper detection sensor (S32)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 1 screw, and then disconnect the connector and take off the sensor bracket.

Note:

When the sensor was installed, be sure to adjust the position of the sensor bracket.

📖 P.4-26 "[A] Saddle unit"

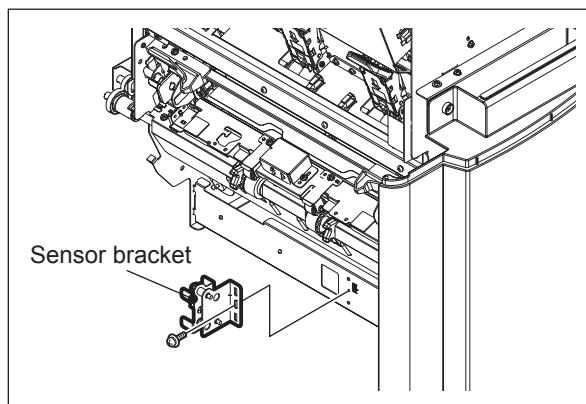


Fig. 4-325

- (3) Release the latch, and then take off the saddle tray paper detection sensor.

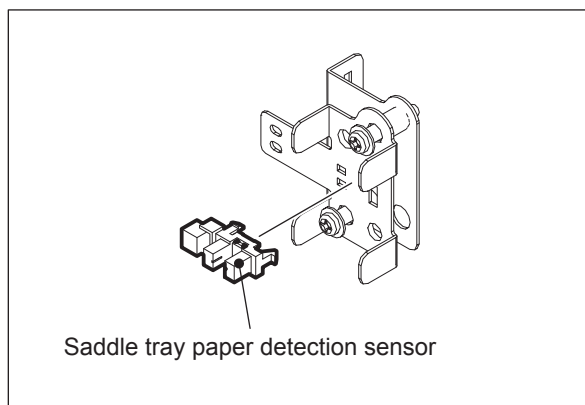


Fig. 4-326

[H] Stacker home position sensor (S33)

- (1) Take off the stacker unit.
 P.4-37 "[H] Stacker unit"
- (2) Move the stacker to the position where the stacker home position sensor is seen.
- (3) Release the latch, and then take off the stacker home position sensor.

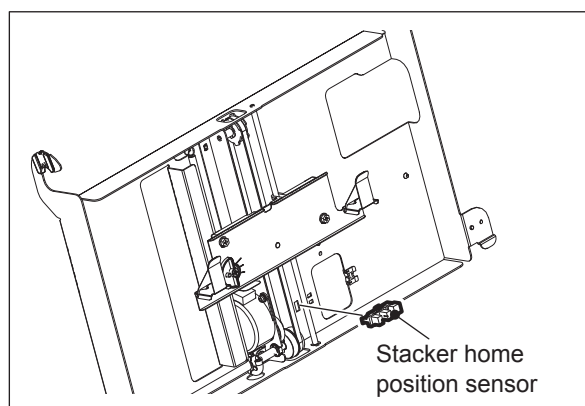


Fig. 4-327

[I] Folding motor encoder sensor (S34)

- (1) Take off the saddle unit.
 P.4-26 "[A] Saddle unit"
- (2) Remove 1 screw, and then disconnect the connector and take off the folding motor encoder sensor.

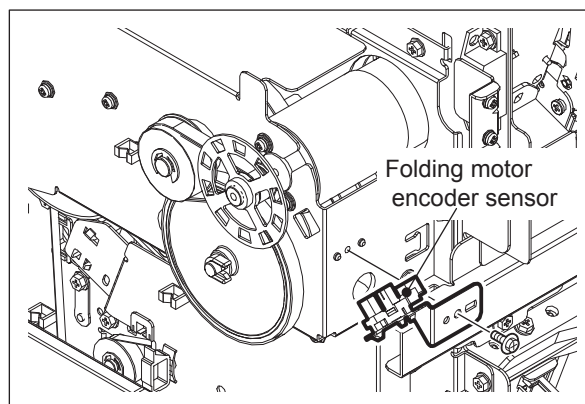


Fig. 4-328

[J] Folding blade home position sensor (S35)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Disconnect the connector, and release the latch, and then take off the folding blade home position sensor.

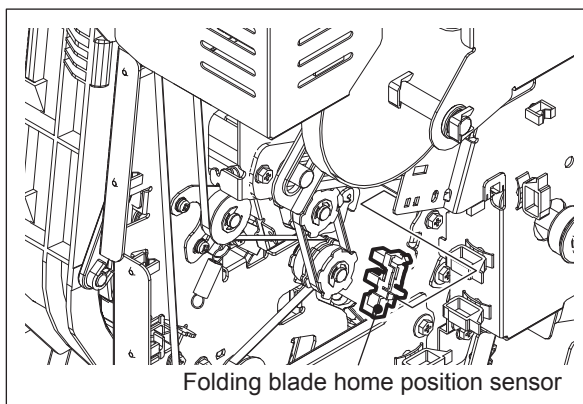


Fig. 4-329

[K] Side alignment home position sensor (S36)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 4 screws, and then take off the upper safety cover.

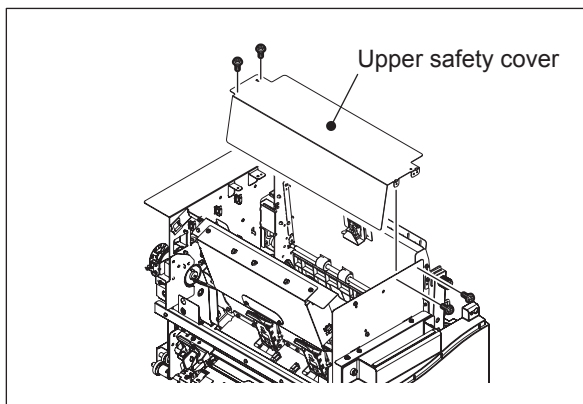


Fig. 4-330

- (3) Move the alignment plates to the center.
- (4) Disconnect the connector, and release the latch, and then take off the side alignment home position sensor.

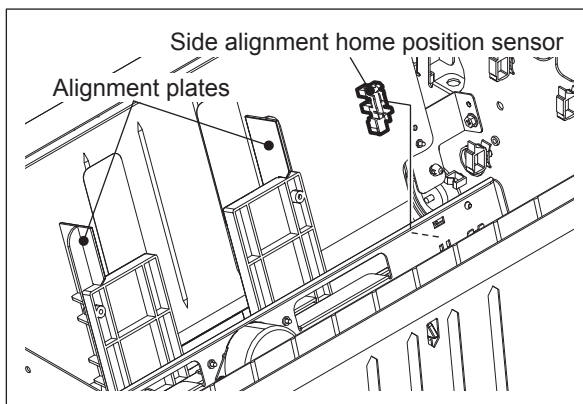



Fig. 4-331

[L] Paper holding home position sensor (S38)

- (1) Take off the paper holding clutch.
 P.4-81 "[D] Paper holding clutch (CLT4) (MJ-1104)"
- (2) Release the harness out of 2 clamps.
- (3) Remove 1 screw and take off the sensor bracket avoiding the actuator.

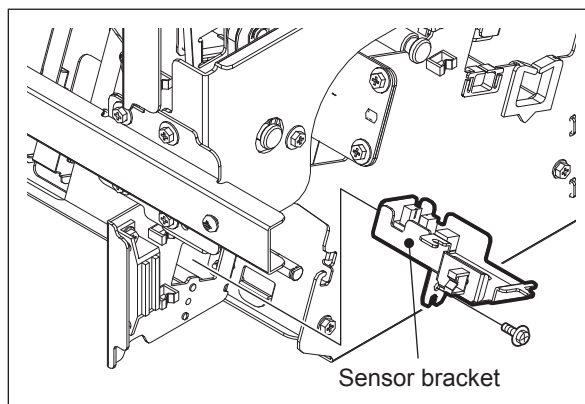


Fig. 4-332

- (4) Disconnect the connector, and release the latch, and then take off the paper holding home position sensor.

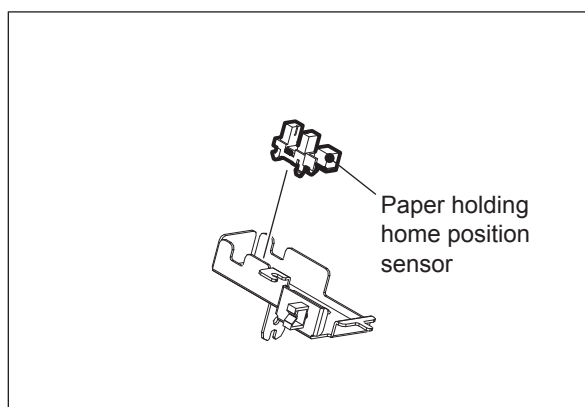



Fig. 4-333

[M] Additional folding home position sensor (S39)

- (1) Take off the EFS unit.
 P.4-35 "[G] EFS unit"
- (2) Rotate the pulley and move the additional folding carrier to the center.
- (3) Disconnect the connector, and release the latch, and then take off the additional folding home position sensor.

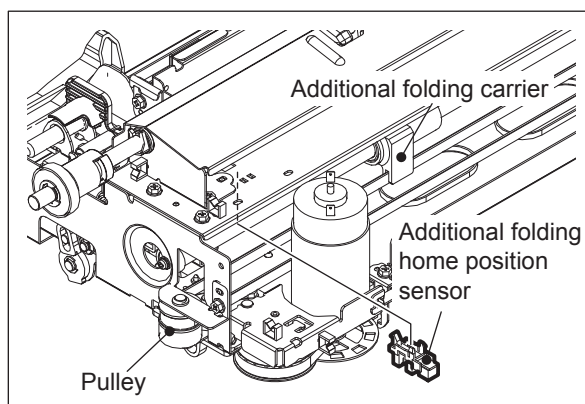


Fig. 4-334

[N] Exit transport sensor (S41)

- (1) Take off the EFS unit.
P.4-35 "[G] EFS unit"
- (2) Remove 1 screw, and then disconnect the connector and take off the exit transport sensor.

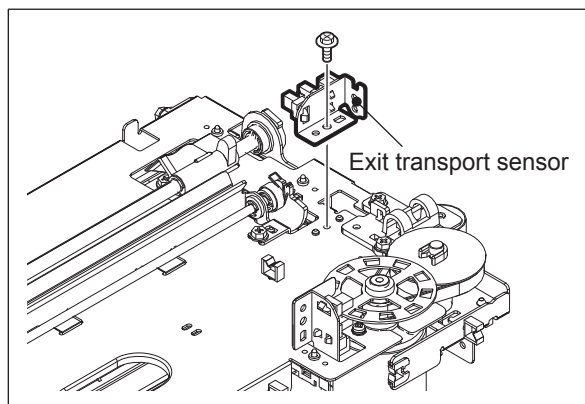


Fig. 4-335

[O] Additional folding motor encoder sensor (S42)

- (1) Take off the additional folding motor.
P.4-78 "[E] Additional folding motor (M20)"
- (2) Remove 1 screw, and then take off the sensor bracket.

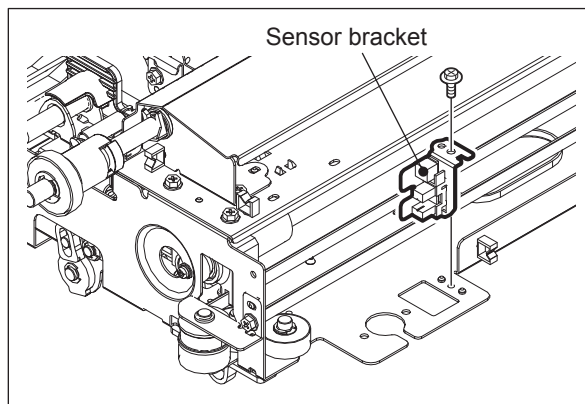


Fig. 4-336

- (3) Release the latch, and then take off the additional folding motor encoder sensor.

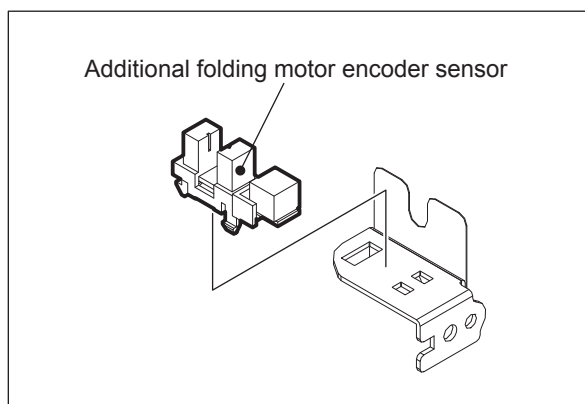


Fig. 4-337

[P] Saddle unit opening/closing switch (SW5)

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 2 screws, and then disconnect the connector and take off the sensor bracket.

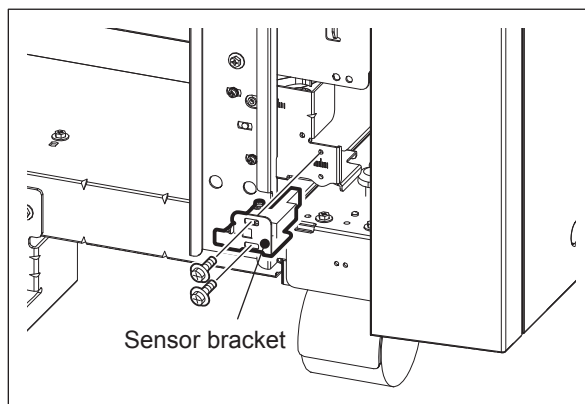


Fig. 4-338

- (3) Remove 2 screws, and then take off the saddle unit opening/closing switch.

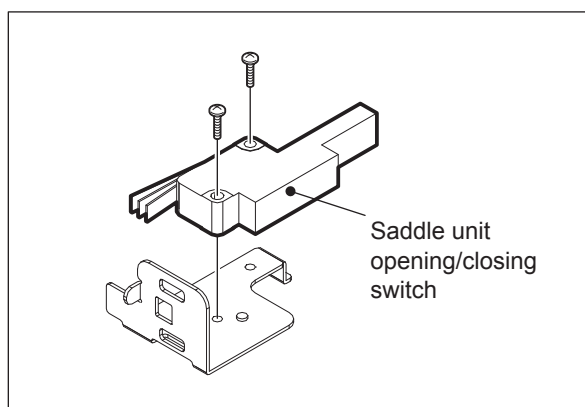


Fig. 4-339

4.11 PC Boards / Discharge Brush

[A] Finisher control PC board (FIN board)

Note:

After the Finisher control PC board (FIN board) has been replaced, check that the firmware is the latest version. If not, upgrade it.

📖 P.7-6 "7.2.1 Update of CNV board"

- (1) Take off the rear cover.
📖 P.4-6 "[G] Rear cover"
- (2) Disconnect all connectors connecting to the FIN board.

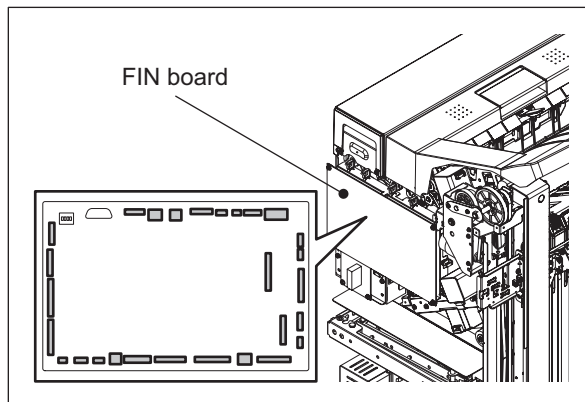


Fig. 4-340

- (3) Remove 4 screws, and then take off the FIN board.

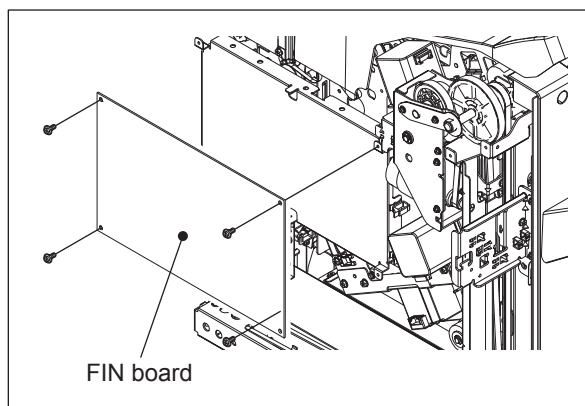


Fig. 4-341

[B] Interface PC board (I/F board)

- (1) Take off the rear cover.
P.4-6 "[G] Rear cover"
- (2) Disconnect all connectors connecting to the I/F board.

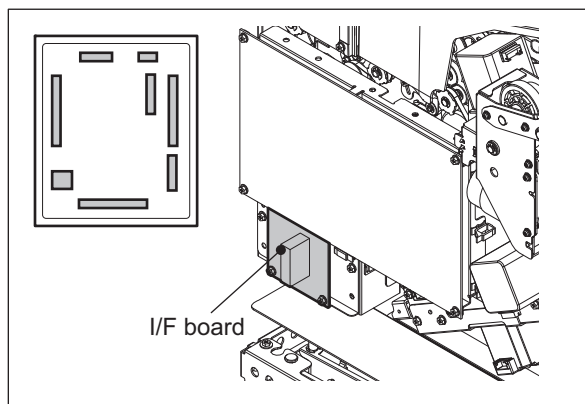


Fig. 4-342

- (3) Remove 4 screws, and then take off the I/F board.

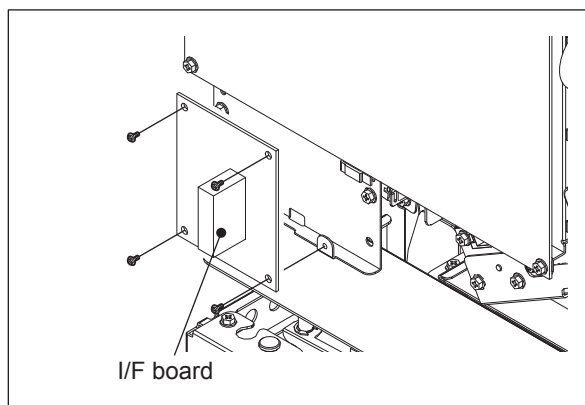


Fig. 4-343

[C] Saddle control PC board (SDL board)

Note:

After the Saddle control PC board (SDL board) has been replaced, check that the firmware is the latest version. If not, upgrade it.

📖 P.7-10 "7.2.3 Update of SDL board"

- (1) Open the front upper cover and then pull out the saddle unit.
- (2) Remove 3 screws, and then take off the SDL board cover.

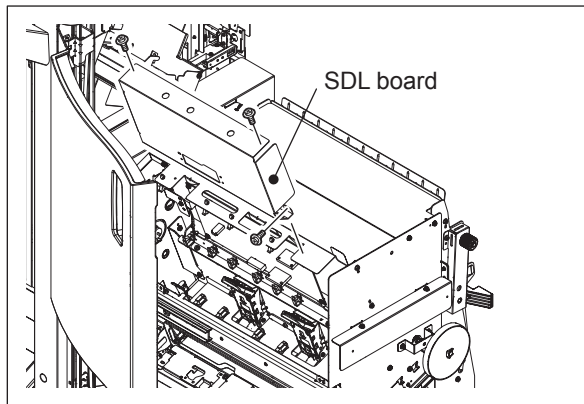


Fig. 4-344

- (3) Disconnect all connectors connecting to the SDL board.

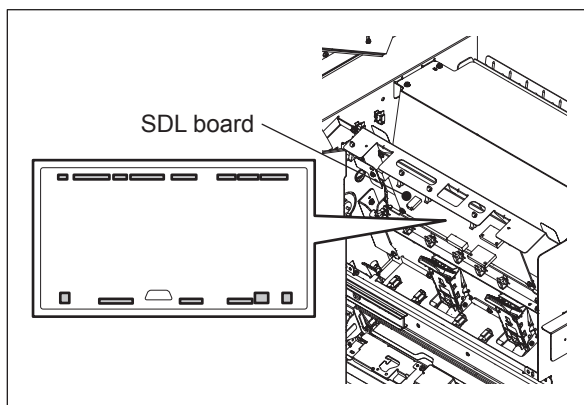


Fig. 4-345

- (4) Remove 4 screws, and then take off the FIN board.

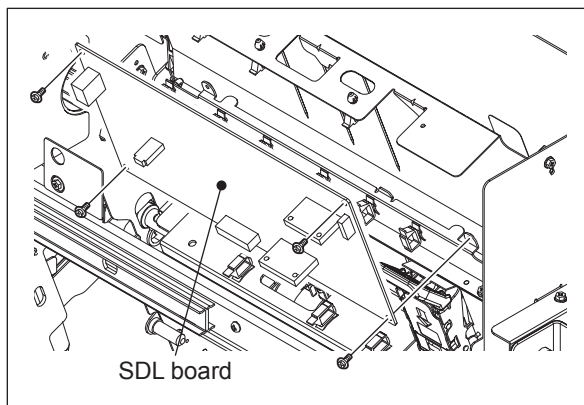


Fig. 4-346

[D] Front stationary tray discharge brush / Rear stationary tray discharge brush

- (1) Take off the stationary tray.
P.4-1 "[A] Stationary tray"
- (2) Loosen 1 rear side screw. Peel off the mylar form around the screws, remove 2 screws, and then take off the .

Note:

When installing the brush, fix the Mylar form securely.

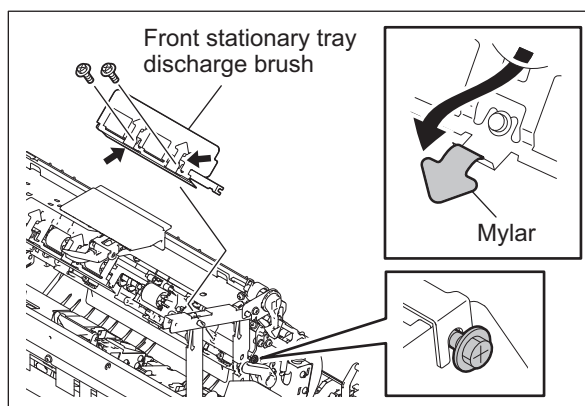


Fig. 4-347

- (3) Loosen 1 front side screw. Peel off the mylar form around the screws, remove 2 screws, and then take off the rear stationary tray discharge brush.

Note:

When installing the brush, fix the Mylar form securely.

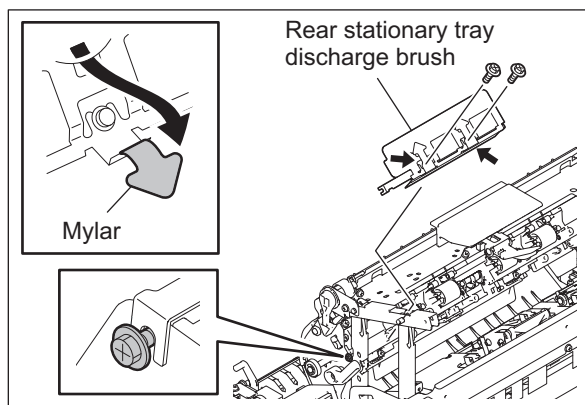


Fig. 4-348

4.12 Procedure for lowering the movable tray

The movable tray can be lowered by releasing its driving gear without disassembling the finisher.

- (1) Open the stationary tray.

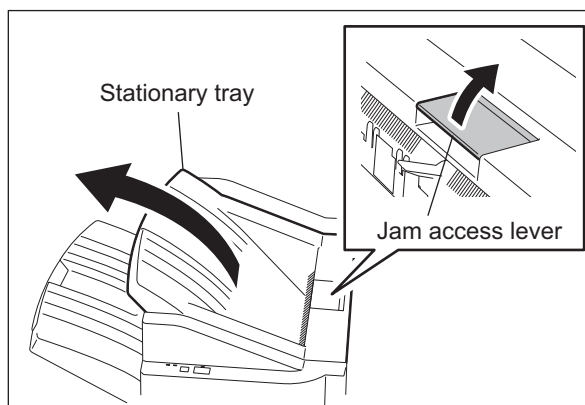


Fig. 4-349

- (2) While the movable tray is held with your hand, insert the screwdriver in the hole-A on the rear cover.

Notes:

- Be sure to hold the movable tray with your hands because it may fall when the screwdriver is pushed.
- Use a screwdriver with a diameter of 8 mm or less.

Remark:

Since the insertion of the screwdriver has released the driving gear of the movable tray, it can now be lowered. If the screwdriver is taken out, the movable tray will stop in that particular position.

- (3) The movable tray can be moved upward without being released by the screwdriver.

Note:

Be sure that the movable tray does not stay above its paper-full sensor. If printing is performed with the sensor turned ON, "Movable tray paper-full detection error" (CB31) will occur. The movable tray must be moved lower than the sensor.

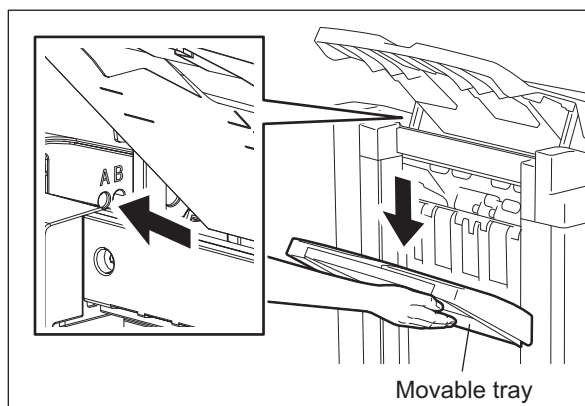


Fig. 4-350

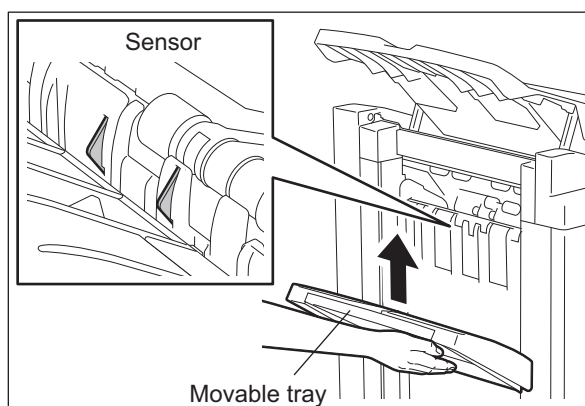


Fig. 4-351

5. ADJUSTMENTS

Note:

Before performing each adjustment, make sure that all covers (incl. those of the finisher and host machine) are closed. Otherwise, the power is not supplied to the finisher and the adjustment may not be performed properly.

5.1 Adjusting the Alignment Position

Perform this adjustment after replacing the Finisher control board or when the alignment position must be changed for some reason.

Adjustment must be performed with 2 types of adjustment sheets for the A4 and LT series.

The adjustment value of A4 will be applied to the operation with A3, A4, A4-R, B4, B5, FOLIO, 8K, 16K.

The adjustment value of LT will be applied to the operation with LD, LG, LT, LT-R, COMP, 13 LG, 8.5" SQ.

- (1) Turn OFF the power of the equipment.
- (2) Remove 2 screw and take off the board access cover.
- (3) Set the SW1 on the Finisher control board as shown in the figures below.

Adjusting for A4 size paper:

Turn ON pin 2 and 4.

Adjusting for LT size paper:

Turn ON pin 1, 2, and 4.

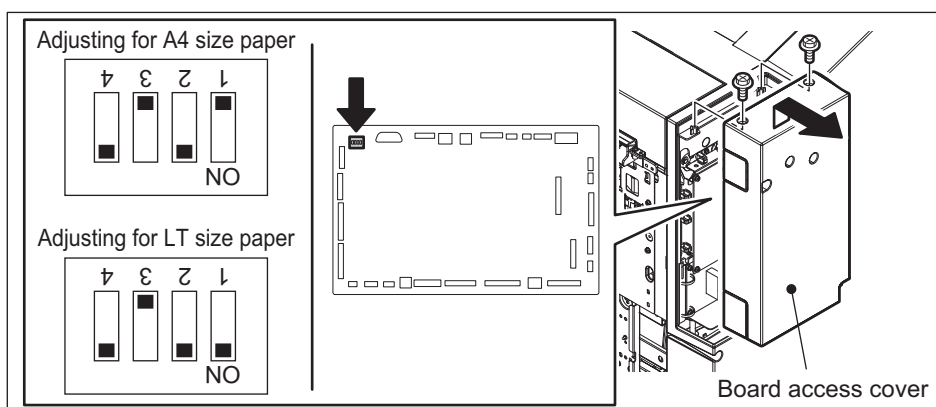


Fig. 5-1

- (4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously. The alignment plate moves to the A4 or LT size position and stops. (It stops at the position of -5 steps from the center value of the adjustment range.)

- (5) Press the [Button1] to adjust the alignment position.
 Every time the [Button1] is pressed, the alignment plate shifts 1 step (0.419 mm/step) toward the “+” direction. (The gap between the alignment plates becomes narrower.)
 Adjustment range is from -5 to +5 steps.
 If the [Button1] is pressed when the alignment position is at the “+5 step”, the plate will return to the home position and then moves to the position of “-5 step”.

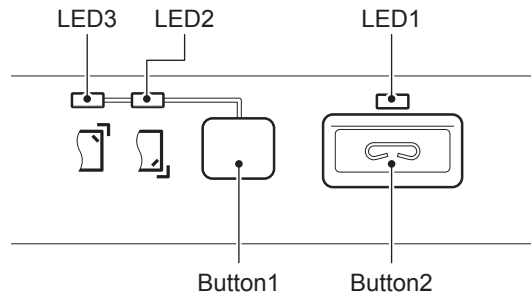


Fig. 5-2

- (6) Place the adjustment sheet on the process tray and adjust the position to make the gap between paper and the alignment plate “0”.
 Then setting is performed at a value that is one smaller than the adjustment value.

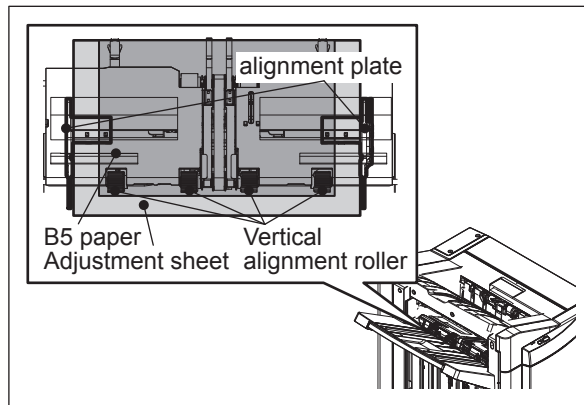


Fig. 5-3

Remarks:

- Use an adjustment sheet made of plastic resin which is light and accurate in measurement (e.g. OHP film).
- To reduce frictional resistance with the vertical alignment roller on the process tray, place a sheet of B5 paper beneath the adjustment sheet on the vertical alignment roller.
- Confirm the gap between paper and the alignment plate by moving the adjustment sheet forward and backward to reduce affect by backrush of the gear of the side alignment plate.

- (7) When the adjustment is completed, press the [Button2] on the finisher control panel to store the adjustment value in memory.
 When the value is stored normally, the [LED1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.
 See the following table for the number of times the [LED1] blinks and its corresponding adjustment value.

Number of Blinking	Adjustment Value
1	-5
2	-4
3	-3
4	-2
5	-1
6	0
7	+1
8	+2
9	+3
10	+4
11	+5

- (8) Turn OFF the power of the equipment.
- (9) Turn OFF all bits of the SW1 on the Finisher control board.
- (10) Install the board access cover.

5.2 Adjusting the Stapling Position

Perform this adjustment after replacing the Finisher control board or when the stapling position must be changed for some reason.

- (1) Turn OFF the power of the equipment.
- (2) Remove 4 screw and take off the board access cover.
- (3) Set the SW1 on the Finisher control board as shown in the figures below.

When adjusting the rear side for A4 size paper:
Turn ON pin 1, 3, and 4.

When adjusting the front side for A4 size paper:
Turn ON pin 3 and 4.

When adjusting the rear side for LT size paper:
Turn ON pin 1, 2, 3, and 4.

When adjusting the front side for LT size paper:
Turn ON pin 2, 3, and 4.

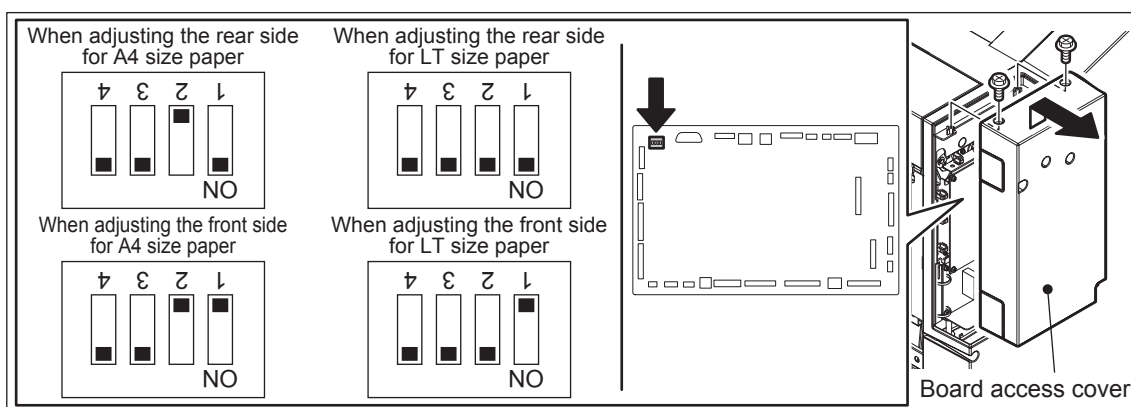


Fig. 5-4

- (4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously. The alignment plate moves to the rear or front side stapling position and stops. (It stops at the position of -20 steps from the center value of the adjustment range.)

- (5) Press [Button 1] to adjust the stapling position.
 Every time [Button 1] is pressed, the alignment plate shifts 4 steps (0.45 mm) toward the "+" direction. (It moves toward the rear side.)
 Adjustment range is from -20 to +20 steps. If [Button 1] is pressed when the alignment position is at the "+20 steps", the plate will return to the home position and then moves to the position of "-20 steps".

Note:

Stapling for checking the position can be done by pressing [Button 2] with sheets placed on the finishing tray. (stapled on the rear side)

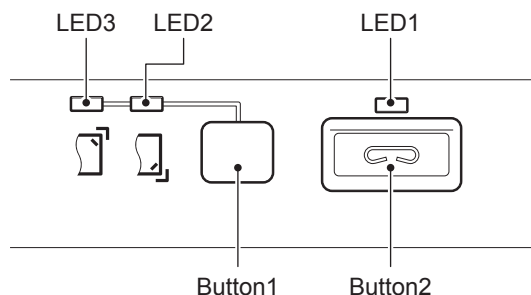


Fig. 5-5

- (6) When the adjustment is completed, press [Button 2] on the finisher control panel to store the adjustment value in memory without sheets on the finishing tray.
 When the value is stored normally, [LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.
 See the following table for the number of times [LED 1] blinks and its corresponding adjustment value.

Number of blinking	Adjustment value
1	-20
2	-16
3	-12
4	-8
5	-4
6	0
7	+4
8	+8
9	+12
10	+16
11	+20

- (7) Turn OFF the power of the equipment.
 (8) Turn OFF all bits of the SW1 on the Finisher control board.
 (9) Install the board access cover.

5.3 Stapling/folding position adjustment in saddle unit

Perform this adjustment when the saddle control PC board was replaced or the stapling/folding position must be changed for some reason.

Prepare 2 types of booklet samples using the main unit and use them for adjustment accordingly.

- (1) Create 2 types of booklet samples (1 set each) using the main unit.

	Sample 1	Sample 2
Media type	Recomended paper	Recomended paper
Paper size	A4	A3
Number of sheets	5 sheets	5 sheets

- (2) Measure the stapling and folding positions of the samples, and then perform adjustment accordingly.

For stapling and folding, paper on the stacker of the stacker unit is moved to an exclusive mechanism for stapling or folding. Therefore adjustment must be performed individually for the folding stopping position of the stacker and the stapling stopping position.

- * Check the folding position at the centerfold page of the sample.

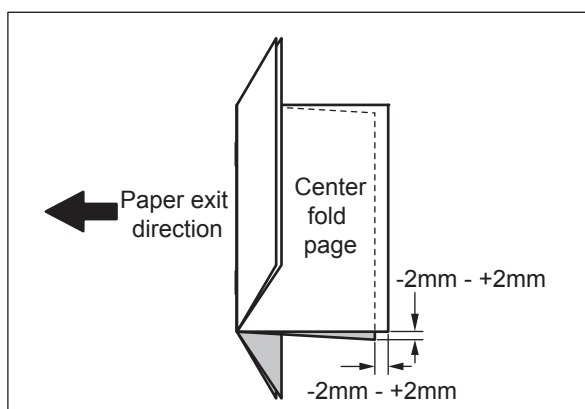


Fig. 5-6

- * Check the stapling position at the centerfold page of the sample.

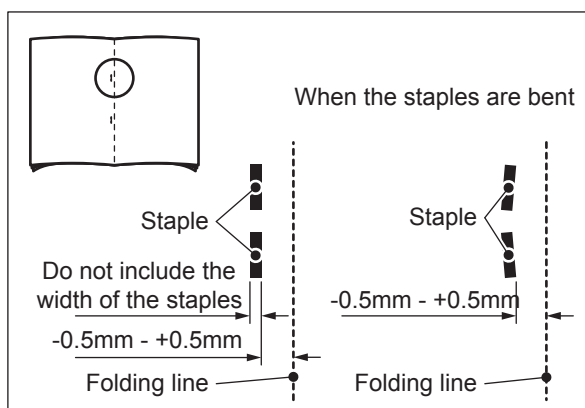
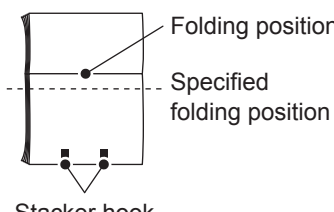
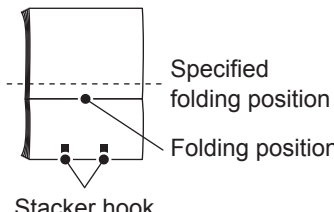
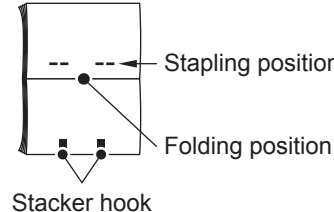
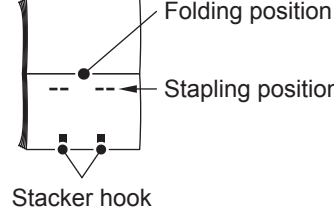


Fig. 5-7

Note:

Perform adjustment for the folding position first because the stapling position must be adjusted referring to the folding line.

Phenomenon	Contents	Adjustment
 <p>Fig. 5-8</p>	When the folding position is deviates from the specified one by more than -2.0 mm	Increase the value of the folding position adjustment in order to move the folding stopping position (the position of the stapling hooks) of the stacker upward. P.5-8 "5.3.1 Folding position adjustment"
 <p>Fig. 5-9</p>	When the folding position is deviates from the specified one by more than 2.0 mm	Decrease the value of the folding position adjustment in order to move the folding stopping position (the position of the stapling hooks) of the stacker downward. P.5-8 "5.3.1 Folding position adjustment"
 <p>Fig. 5-10</p>	When the stapling position is deviated from the specified one more than -0.50 mm	Decrease the value of the stapling position adjustment in order to move the stapling stopping position (the position of the stapling hooks) of the stacker downward. P.5-10 "5.3.2 Stapling position adjustment"
 <p>Fig. 5-11</p>	When the stapling position is deviated from the specified one more than 0.50 mm	Increase the value of the stapling position adjustment in order to move the stapling stopping position (the position of the stapling hooks) of the stacker upward. P.5-10 "5.3.2 Stapling position adjustment"

5.3.1 Folding position adjustment

- (1) Turn OFF the power of the equipment.
- (2) Remove 2 screw and take off the board access cover.
- (3) Set the SW1 on the Finisher control board as shown in the figures below.
Turn ON pin 1 and 4.

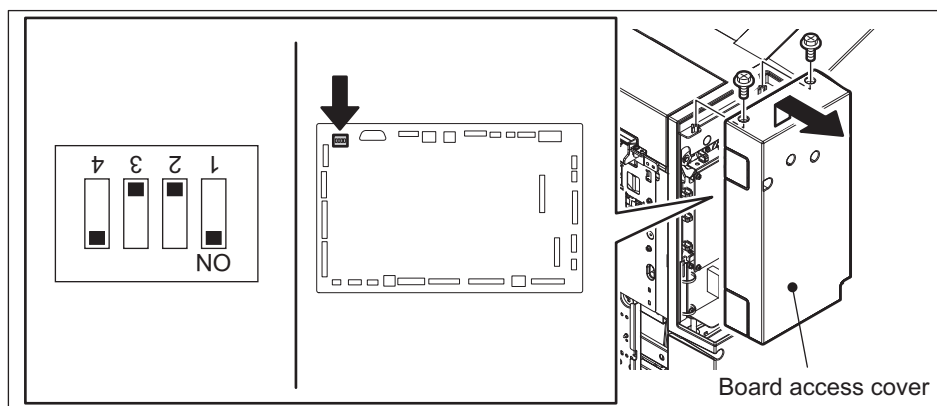


Fig. 5-12

- (4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously.
- (5) Press [Button 1] on the touch panel 10 times and then press [Button 2] once. Then press [Button 1] again 2 times, and [Button 2] once again. (Adjustment of LD and A3 paper starts.)

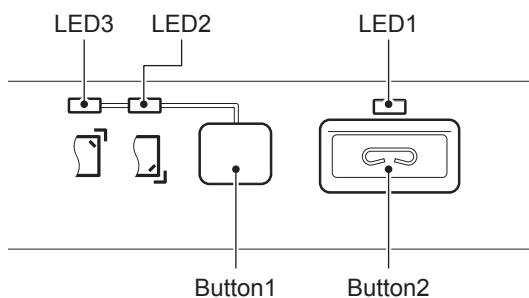


Fig. 5-13

[LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.

See the following table for the number of times [LED 1] blinks and its corresponding adjustment value.

Number of blinking	Adjustment value
1	-7
2	-6
3	-5
4	-4
5	-3
6	-2
7	-1
8	0
9	+1
10	+2
11	+3
12	+4
13	+5
14	+6
15	+7

- (6) Press [Button 1] to adjust the folding position.
Every time [Button 1] is pressed, the alignment plate shifts 1 steps (0.2 mm) toward the "+" direction. (The stacker [paper] moves upward and thus the folding position moves downward against the folding mechanism.)
Adjustment range is from -7 to +7 steps. If [Button 1] is pressed when the alignment position is at the "+7 steps", the plate will return to the home position and then moves to the position of "-7 steps".
- (7) When the adjustment is completed, press [Button 2] on the finisher control panel to store the adjustment value in memory without sheets on the finishing tray.
When the value is stored normally, [LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.
- (8) Press [Button 1] and [Button 2]. (Adjustment of LD and A3 paper finishes.)
- (9) Press [Button 1] on the touch panel 10 times and then press [Button 2] once. Then press [Button 1] again 4 times, and [Button 2] once again. (Adjustment of LG, B4, LT-R and A4-R paper starts.)
[LED 1] on the touch panel blinks for the number of times corresponding to the current adjustment value.
Perform adjustment for steps (6) to (8) in the same procedure.
- (10) Turn OFF the power of the equipment.
- (11) Turn OFF all bits of the SW1 on the Finisher control board.
- (12) Install the board access cover.

5.3.2 Stapling position adjustment

- (1) Turn OFF the power of the equipment.
- (2) Remove 2 screw and take off the board access cover.
- (3) Set the SW1 on the Finisher control board as shown in the figures below.
Turn ON pin 1 and 4.

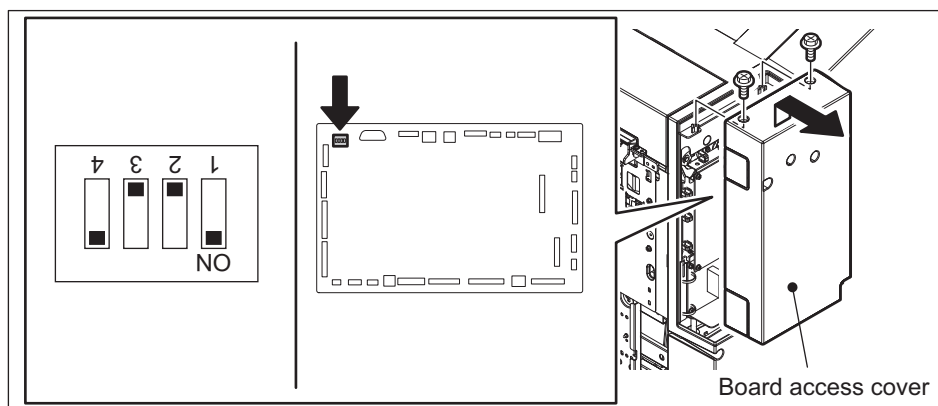


Fig. 5-14

- (4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously.
- (5) Press [Button 1] on the touch panel 10 times and then press [Button 2] once. Then press [Button 1] once again, and [Button 2] once again. (Adjustment of LD and A3 paper starts.)

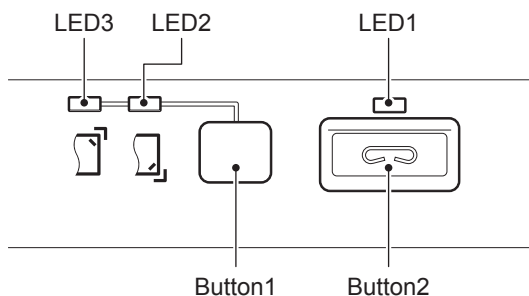


Fig. 5-15

[LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.

See the following table for the number of times [LED 1] blinks and its corresponding adjustment value.

Number of blinking	Adjustment value
1	-7
2	-6
3	-5
4	-4
5	-3
6	-2
7	-1
8	0
9	+1
10	+2
11	+3
12	+4
13	+5
14	+6
15	+7

- (6) Press [Button 1] to adjust the stapling position.
Every time [Button 1] is pressed, the alignment plate shifts 1 steps (0.4 mm) toward the "+" direction. (The stacker [paper] moves upward and thus the stapling position moves downward against the stapling mechanism.)
Adjustment range is from -7 to +7 steps. If [Button 1] is pressed when the alignment position is at the "+7 steps", the plate will return to the home position and then moves to the position of "-7 steps".
- (7) When the adjustment is completed, press [Button 2] on the finisher control panel to store the adjustment value in memory.
When the value is stored normally, [LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.
- (8) Press [Button 1] and [Button 2]. (Adjustment of LD and A3 paper finishes.)
- (9) Press [Button 1] on the touch panel 10 times and then press [Button 2] once. Then press [Button 1] again 3 times, and [Button 2] once again. (Adjustment of LG, B4, LT-R and A4-R paper starts.)
[LED 1] on the touch panel blinks for the number of times corresponding to the current adjustment value.
Perform adjustment for steps (6) to (8) in the same procedure.
- (10) Turn OFF the power of the equipment.
- (11) Turn OFF all bits of the SW1 on the Finisher control board.
- (12) Install the board access cover.

5.4 Saddle Stitch Skew Adjustment

Perform this adjustment when the folding position for saddle stitching is tilted.

- (1) Turn OFF the power of the equipment.
- (2) Open the cover, pull out the saddle stitch section, and then loosen the 2 screws.

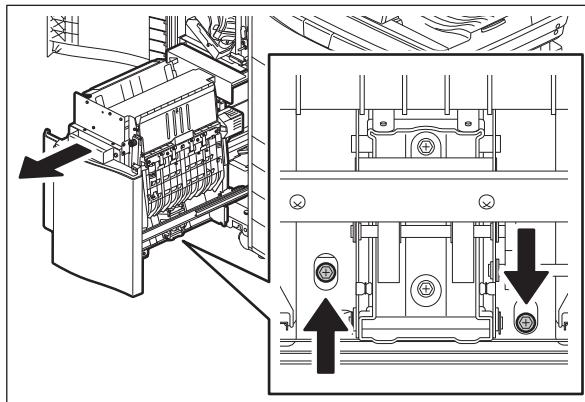
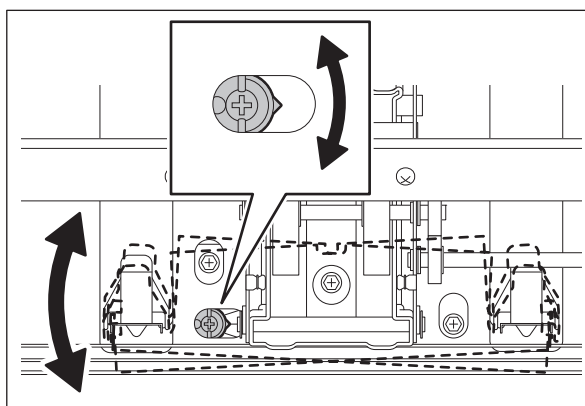
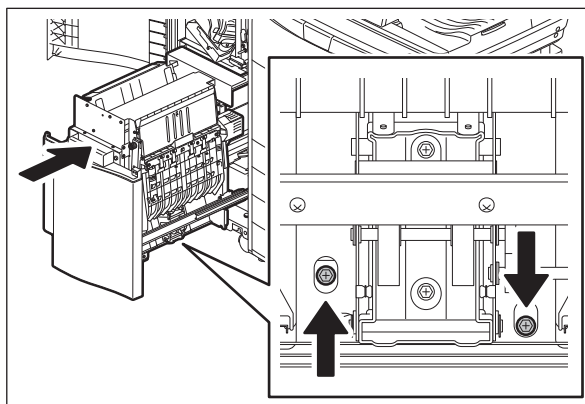


Fig. 5-16

- (3) Rotate the adjustment screw slightly.



- (4) Tighten the 2 screws, return the saddle stitch section, and then close the cover.



6. TROUBLESHOOTING

6.1 Paper Transport Jam

6.1.1 Paper jam in entrance section

[EA10] Transport delay jam (paper not inserted)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the feeding sensor (S22)?

↓ →YES

- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.

↓

- Replace the sensor if there is any breakage.

NO

Is the gap between the upper surface of the flapper edge and the transport guide surface in the acceptable range according to the status of the transport path switching solenoid (SOL5) (solenoid OFF: 1.5-2.1 mm, solenoid ON: 2.3-2.9 mm)?

↓ →YES Adjust the gap.

NO

Is the harness between the entrance motor (M1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the transport path switching solenoid (SOL5) and the CN6 of the interface PC board (I/F) disconnected or open circuited?

Is any of the harnesses between the CN25 and CN27 of the finisher control PC board (FIN) and the CN5 and CN7 of the interface PC board (I/F) disconnected or open circuited?

↓ →YES

- Reconnect the connector securely if there is any disconnection.

↓

- Replace the harness if open circuited.

NO

1. Replace the interface control PC board (I/F).
2. Replace the finisher control PC board (FIN).

[EA26] Paper transport jam in Finisher (Stop signal received from equipment)

[EA27] Paper transport jam in Finisher (Paper not inserted but paper detected)

Is there any paper remaining on the transport path in the Finisher or the equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the entrance sensor (S1)?

I →YES • Reconnect the connector securely if there is any disconnection.
I • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the entrance sensor (S1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA60] Early arrival jam

Is there any paper remaining on the transport path in the Finisher or the equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the feeding sensor (S22)?

I →YES • Reconnect the connector securely if there is any disconnection.
I • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the feeding sensor (S22) and the CN8 of the interface PC board (I/F) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the interface control PC board (I/F).
2. Replace the finisher control PC board (FIN).

[CB10] Entrance motor (M1) abnormality

Is there any mechanical problem when the feeding roller is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the entrance motor (M1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the entrance motor (M1).
2. Replace the finisher control PC board (FIN).

[CB13] Exit motor (M11) abnormality

Is there any mechanical problem when the exit roller is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the exit motor (M11) and the CN13 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the exit motor (M11).
2. Replace the finisher control PC board (FIN).

6.1.2 Paper jam in buffer unit-1

[EA20] Paper transport jam in Finisher (entrance sensor)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the entrance sensor (S1)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the entrance sensor (S1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA21] Short length paper jam in Finisher (transport sensor)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is the paper too short for specifications?

↓ →YES Use paper accepted in the specifications.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the entrance sensor (S1)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport sensor (S2)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the entrance sensor (S1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the transport sensor (S2) and the CN6 of the finisher control PC board (FIN) disconnected or open circuited?

- I →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA23] Paper transport jam in Finisher (transport sensor)

Is there any paper remaining on the transport path in the finisher or equipment?

- ↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the transport sensor (S2)?

- I →YES • Reconnect the connector securely if there is any disconnection.
- I • Reinstall the sensor correctly if there is any incorrect installation.
- ↓ • Replace the sensor if there is any breakage.

NO

Replace the finisher control PC board (FIN).

[EA24] Paper transport jam in Finisher (entrance sensor ? transport sensor)

Is there any paper remaining on the transport path in the finisher or equipment?

- ↓ →YES Remove the paper.

NO

Is the paper size used shorter than the size specified in the specifications?

- ↓ →YES Use the paper size specified in the specifications.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the entrance sensor (S1)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport sensor (S2)?

- I →YES • Reconnect the connector securely if there is any disconnection.
- I • Reinstall the sensor correctly if there is any incorrect installation.
- ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the entrance motor (M1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the transport sensor (S2) and the CN6 of the finisher control PC board (FIN) disconnected or open circuited?

- I →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA31] Transport path paper remaining jam in Finisher

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the transport sensor (S2)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Reinstall the sensor correctly if there is any incorrect installation.
 ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the transport sensor (S2) and the CN6 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

6.1.3 Paper jam in buffer unit-2

[EA28] Paper transport jam in Finisher (paper holding delay)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there any mechanical problem when the paper holding cam is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the assist arm motor (M10) and the CN13 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA29] Paper transport jam in Finisher (paper stack transport delay)

Is there any paper remaining on the transport path in the Finisher or the equipment?

↓ →YES Remove the paper.

NO

Is there any mechanical problem when the buffer tray guide is opened and closed while the buffer roller is kept raised?

↓ →YES Fix the mechanism.

NO

Is the harness between the buffer tray guide motor (M2) and the CN11 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[ED16] Buffer tray home position error

Is there any mechanical problem when the buffer tray guide is opened/closed?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the buffer tray home position sensor (S5)?

I →YES • Reconnect the connector securely if there is any disconnection.
I • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the buffer tray home position sensor (S5) and the CN11 of the finisher control PC board (FIN) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Is the harness between the assist arm motor (M10) and the CN13 of the finisher control PC board (FIN) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[CB11] Buffer tray guide motor (M2) abnormality

*** The [CB11] error also occurs when the error [ED16] has occurred consecutively for 3 times or when it occurred during NIC initialization.**

Is there any mechanical problem when the buffer tray guide is opened and closed while the buffer roller is kept raised?

↓ →YES Fix the mechanism.

NO

Is the harness between the buffer tray guide motor (M2) and the CN11 of the finisher control PC board (FIN) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the buffer tray guide motor (M2).
2. Replace the finisher control PC board (FIN).

[CB12] Buffer roller drive motor (M4) abnormality

Is there any mechanical problem when the buffer roller is rotated?

↓ →YES Fix the drive mechanism.

NO

Is the harness between the buffer roller drive motor (M4) and the CN11 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the buffer roller drive motor (M4).
2. Replace the finisher control PC board (FIN).

[CB14] Paper pusher arm motor (M10) abnormality

Is there any mechanical problem when the paper pusher cam is rotated?

↓ →YES Fix the drive mechanism.

NO

Is the harness between the assist arm motor (M10) and the CN13 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the buffer roller drive motor (M10).
2. Replace the finisher control PC board (FIN).

6.1.4 Paper jam in finishing tray section**[EA25] Paper transport jam in Finisher (after paper stack was exited)**

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there any mechanical problem when the actuator of the finishing tray paper detection sensor (S12) is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the finishing tray paper detection sensor (S12)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the finishing tray paper detection sensor (S12) and the CN18 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[ED13] Front alignment plate home position error

Is there any mechanical problem when the front alignment plate is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the front alignment plate home position sensor (S7)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the front alignment plate home position sensor (S7) and the CN18 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the front alignment motor (M5) and the CN17 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[ED14] Rear alignment plate home position error

Is there any mechanical problem when the rear alignment plate is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the rear alignment plate home position sensor (S8)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the rear alignment plate home position sensor (S8) and the CN18 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the rear alignment motor (M6) and the CN17 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[CB40] Front alignment motor (M5) abnormality

* The [CB40] error also occurs when the error [ED13] has occurred consecutively for 3 times.

Is there any mechanical problem when the front alignment plate is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the front alignment motor (M5) and the CN10 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the front alignment motor (M5).
2. Replace the finisher control PC board (FIN).

[CC80] Rear alignment motor (M6) abnormality

* The [CC80] error also occurs when the error [ED14] has occurred consecutively for 3 times.

Is there any mechanical problem when the rear alignment plate is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the rear alignment motor (M6) and the CN17 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the rear alignment motor (M6).
2. Replace the finisher control PC board (FIN).

[ED15] Paddle home position error

Is there any mechanical problem when the paddle is rotated?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the paddle home position sensor (S3)?

↓ →YES • ? Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the paddle home position sensor (S3) and the CN5 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the paddle motor (M3) and the CN6 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[CDE0] Paddle motor (M3) abnormality

*** The [CDE0] error also occurs when the error [ED15] has occurred consecutively for 3 times or when it occurred during NIC initialization.**

Is there any mechanical problem with the paddle is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the paddle motor (M3) and the CN22 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the paddle motor (M3).
2. Replace the finisher control PC board (FIN).

[EA70] Stack exit belt home position error

Is there a disconnection of the connector, incorrect installation or breakage of the stack exit belt home position sensor (S9)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the stack exit belt home position sensor (S9) and the CN18 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the stack transport motor (M8) and the CN17 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[CC30] Stack transport motor (M8) abnormality

*** The [CC30] error also occurs when the error [EA70] has occurred consecutively for 3 times.**

Is there any mechanical problem when the stack transport belt is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the stack transport motor (M8) and the CN17 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the stack transport motor (M8).
2. Replace the finisher control PC board (FIN).

[CC31] Transport motor (M7) abnormality

* The [CC31] error also occurs when the error [ED12] has occurred consecutively for 3 times.

Is there any mechanical problem when the stack transport roller -1 and -2 are rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the transport motor (M7) and the CN10 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the transport motor (M7).
2. Replace the finisher control PC board (FIN).

[CC41] Paper pusher cam home position abnormality

Is there any mechanical problem when the paper pusher cam is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the paper holder home position sensor (S6) and the CN9 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the paper pusher home position sensor (S6).
2. Replace the finisher control PC board (FIN).

[EA32] Exit paper remaining jam

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the finishing tray paper detection sensor (S12)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the finishing tray paper detection sensor (S129) and the CN18 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

6.1.5 Paper jam in movable tray section

[CB30] Movable tray shift motor (M12) abnormality

Is there any mechanical problem when the movable tray is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the movable tray shift motor (M12) and the CN16 of the finisher control PC board (FIN) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.

↓ • Replace the harness if open circuited.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the movable tray position A, B, and C sensors (S13, S14, and S15)?

I →YES • Reconnect the connector securely if there is any disconnection.

↓ • Reinstall the sensor correctly if there is any incorrect installation.

• Replace the sensor if there is any breakage.

NO

1. Replace the movable tray shift motor (M12).

2. Replace the finisher control PC board (FIN).

[CB31] Movable tray paper-full detection error

Is there any mechanical problem when the actuator of the movable tray paper-full detection sensor (S16) is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the movable tray paper-full sensor (S16)?

I →YES • Reconnect the connector securely if there is any disconnection.

I • Reinstall the sensor correctly if there is any incorrect installation.

↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the movable tray paper-full sensor (S16) and the CN12 of the finisher control PC board (FIN) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.

↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board(FIN).

[ED12] Shutter home position error

Is there any mechanical problem when the shutter is opened/closed?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the shutter opening/closing sensor (S4)?

I →YES • Reconnect the connector securely if there is any disconnection.

I • Reinstall the sensor correctly if there is any incorrect installation.

↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the shutter opening/closing sensor (S4) and the finisher control PC board (CN12) disconnected or open circuited?

Is the harness between the shutter clutch (CLT1) and the CN10 of the finisher control PC board (FIN) disconnected or open circuited?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

6.1.6 Cover open jam

[EA40] Cover open error

Is the front cover (MJ-1103), upper front cover (MJ-1104) or stationary tray opened?

- ↓ →YES • Close the front cover (MJ-1103) or upper front cover (MJ-1104).
- ↓ • Close the stationary tray.

NO

Is there any breakage of the front cover hook which switches the front cover switch (SW1) to ON?

- ↓ →YES Replace the cover locking bracket.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the front cover switch (SW1)?

Is there incorrect installation or breakage of the stationary tray opening/closing switch (SW2)?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Reinstall the switch correctly if there is any incorrect installation.
- ↓ • Replace the switch if there is any breakage.

NO

Is the harness between the front cover switch (SW1) / stationary tray opening/closing switch (SW2) and the finisher control PC board (CN7) disconnected or open circuited?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA90] Saddle unit open error (MJ-1104)

Is the saddle unit opened?

- ↓ →YES Close the unit.

NO

Is there any paper remaining on the stacker?

- ↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the saddle unit opening/closing switch (SW5)?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Reinstall the switch correctly if there is any incorrect installation.
- ↓ • Replace the switch if there is any breakage.

NO

Is the harness between the saddle unit opening/closing switch (SW5) and the CN13 of the saddle control PC board (SDL) or the CN2 of the interface PC board (I/F) disconnected or open circuited?

- I → YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

1. Replace the finisher control PC board (FIN).
2. Replace the interface PC board (I/F).

6.2 Paper Transport Jam in Saddle Stitch Section (MJ-1104)

6.2.1 Paper jam in Saddle Stitch Finisher transport section

[EAA0] Paper remaining in Saddle Stitch Finisher

Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is the paper too short for specifications?

↓ →YES Use paper accepted in the specifications.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the junction box paper detection sensor (S24)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport path-2 (S27)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport path-3 (S28)?

Is there a disconnection of the connector, incorrect installation or breakage of the ejecting roller sensor (S29)?

- ↓ →YES
- Reconnect the connector securely if there is any disconnection.
 - Reinstall the sensor correctly if there is any incorrect installation.
 - Replace the sensor if there is any breakage.

NO

Is the harness between the junction box paper detection sensor (S24) and the CN8 of the interface PC board (I/F) disconnected or open circuited?

Is the harness between the transport path-2 sensor (S27), transport path-3 sensor (S28) or ejecting roller sensor (S29) and the CN20 of the saddle control PC board (SDL) disconnected or open circuited?

Is any of the harnesses between the CN1 or CN2 of the interface PC board (I/F) and the CN10 or CN13 of the saddle control PC board (SDL) disconnected or open circuited?

Is any of the harnesses between the CN5 or CN7 of the interface PC board (I/F) and the CN25 or CN27 of the finisher control PC board (FIN) disconnected or open circuited?

- ↓ →YES
- Reconnect the connector securely if there is any disconnection.
 - Replace the harness if open circuited.

NO

1. Replace the saddle control PC board (SDL).

2. Replace the finisher control PC board (FIN).

[EAB0] Paper transport jam in Saddle Stitch Finisher

Is there any paper remaining in the paper transport path of the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is the paper too long for specifications?

↓ →YES Use paper accepted in the specifications.

NO

Is there any mechanical problem when the transport roller is rotated?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the feeding sensor (S22)?

Is there a disconnection of the connector, incorrect installation or breakage of the junction box paper detection sensor (S24)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport path-2 (S27)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport path-3 (S28)?

Is there a disconnection of the connector, incorrect installation or breakage of the ejecting roller (S29)?

- ↓ →YES
- Reconnect the connector securely if there is any disconnection.
 - Reinstall the sensor correctly if there is any incorrect installation.
 - Replace the sensor if there is any breakage.

NO

Is the gap between the upper surface of the flapper edge and the transport guide surface in the acceptable range according to the status of the transport path switching solenoid (SOL5) (solenoid OFF: 1.5-2.1 mm, solenoid ON: 2.3-2.9 mm)

↓ →YES Adjust the gap.

NO

Is the harness between the feeding sensor (S22) or the junction box paper detection sensor (S24) and the CN8 of the interface PC board (I/F) disconnected or open circuited?

Is the harness between the transport path-2 sensor (S27), transport path-3 sensor (S28) or ejecting roller sensor (S29) and the CN20 of the saddle control PC board (SDL) disconnected or open circuited?

Is the harness between the saddle transport motor (M16) and the CN8 of the saddle control PC board (SDL) disconnected or open circuited?

Is the harness between the entrance motor (M1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the transport path switching solenoid (SOL5) and the CN6 of the interface PC board (I/F) disconnected or open circuited?

Is the harness between the CN1 or CN2 of the interface PC board (I/F) and the CN10 or CN13 of the saddle control PC board (FIN) disconnected or open circuited?

Is the harness between the CN5 or CN7 of the interface PC board (I/F) and the CN25 or CN27 of the finisher control PC board (FIN) disconnected or open circuited?

- ↓ →YES
- Reconnect the connector securely if there is any disconnection.
 - Replace the harness if open circuited.

NO

1. Replace the interface PC board (I/F).
2. Replace the saddle control PC board (SDL).
3. Replace the finisher control PC board (FIN).

[EAB1] Short paper jam in Saddle Stitch Finisher

Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is the paper too short for specifications?

↓ →YES Use paper accepted in the specifications.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the feeding sensor (S22)?

Is there a disconnection of the connector, incorrect installation or breakage of the junction box paper detection sensor (S24)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport path-2 (S27)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport path-3 (S28)?

Is there a disconnection of the connector, incorrect installation or breakage of the ejecting roller (S29)?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Reinstall the sensor correctly if there is any incorrect installation.
- ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the feeding sensor (S22) or the junction box paper detection sensor (S24) and the CN8 of the interface PC board (I/F) disconnected or open circuited?

Is the harness between the transport path-2 sensor (S27), transport path-3 sensor (S28) or ejecting roller sensor (S29) and the CN20 of the saddle control PC board (SDL) disconnected or open circuited?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

1. Replace the saddle control PC board (SDL).
2. Replace the finisher control PC board (FIN).

[EF14] Saddle exit jam

Is there any paper remaining in the paper transport path of the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the exit sensor (S31)?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Reinstall the sensor correctly if there is any incorrect installation.
- ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the exit sensor (S31) and the CN19 of the saddle control PC board (SDL) disconnected or open circuited?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[EF13] Saddle unit paper holding home position detection error

Is there any mechanical problem when the paper holding cam is rotated?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the paper holding home position sensor (S38)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the paper holding home position sensor (S38), paper holding clutch (CLT4) or saddle transport motor (M16) and the CN8 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[CB94] Saddle transport motor (M16) abnormality

*** The [CB94] error also occurs when the error [EAB0] or [EF13] has occurred consecutively for 3 times.**

Is there any mechanical problem when the transport rollers are rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the saddle transport motor (M16) and the CN18 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the saddle transport motor (M16).
2. Replace the saddle control PC board (SDL).

6.2.2 Paper jam in side alignment section

[EF15] Saddle Stitch Finisher side alignment home position detection error

Is there any mechanical problem when the jog is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the side alignment home position sensor (S36)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Reinstall the sensor correctly if there is any incorrect installation.
 ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the side alignment home position sensor (S36) and the CN5 of the saddle control PC board (SDL) disconnected or open circuited?

Is the harness between the side alignment motor (M15) and the CN5 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[CBC0] Saddle Stitch Finisher side alignment motor (M15) abnormality

* The [CBC0] error also occurs when the error [EF15] has occurred consecutively for 3 times.

Is there any mechanical problem when the jog is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the side alignment motor (M15) and the CN5 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Replace the harness if open circuited.

NO

1. Replace the side alignment motor (M15).
2. Replace the saddle control PC board (SDL).

6.2.3 Paper jam in stack transport section

[EF20] Saddle stacker jam

Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the stacker paper detection sensor (S30)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Reinstall the sensor correctly if there is any incorrect installation.
 ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the stacker paper detection sensor (S30) and the CN14 of the saddle control PC board (SDL) disconnected or open circuited?

- I →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[EF16] Saddle Stitch Finisher stacker motor (M14) home position detection error

Is there any mechanical problem when the stacker carrier is moved?

- ↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the stacker home position sensor (S33)?

- I →YES • Reconnect the connector securely if there is any disconnection.
- I • Reinstall the sensor correctly if there is any incorrect installation.
- ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the stacker home position sensor (S33) and the CN4 of the saddle control PC board (SDL) disconnected or open circuited?

Is the harness between the stacker motor (M14) and the CN4 of the saddle control PC board (SDL) disconnected or open circuited?

- I →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[CB95] Saddle Stitch Finisher stacker motor (M14) abnormality

***The [CB95] error also occurs when the error [EF16] has occurred consecutively for 3 times.**

Is there any mechanical problem when the stacker carrier is moved?

- ↓ →YES Fix the mechanism.

NO

Is the harness between the stacker motor (M14) and the CN4 of the saddle control PC board (SDL) disconnected or open circuited?

- I →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

6.2.4 Paper jam in folding section

[EF19] Saddle Stitch Finisher paper folding jam

Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the exit transport sensor (S41)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Reinstall the sensor correctly if there is any incorrect installation.
 ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the exit transport sensor (S41) and the CN19 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[EF17] Saddle Stitch Finisher folding blade home position detection error

Is there any mechanical problem when the folding blade cam is rotated?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the folding blade home position sensor (S35)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Reinstall the sensor correctly if there is any incorrect installation.
 ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the folding blade home position sensor (S35) and the CN15 of the saddle control PC board (SDL) disconnected or open circuited?

Is there a disconnection of the connector, incorrect installation or breakage of the folding blade clutch (CLT3)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[CBE0] Saddle Stitch Finisher folding motor (M17) abnormality

*** The [CBE0] error also occurs when the error [EF17] has occurred consecutively for 3 times.**

Is there a disconnection of the connector, incorrect installation or breakage of the folding motor encoder sensor (S34)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
 ↓ • Reinstall the sensor correctly if there is any incorrect installation.
 ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the folding motor encoder sensor (S34) and the CN11 of the saddle control PC board (SDL) disconnected or open circuited?

Is the harness between the folding motor (M17) and the CN14 of the saddle control PC board (SDL) disconnected or open circuited?

- I →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

1. Replace the folding motor (M17).
2. Replace the saddle control PC board (SDL).

6.2.5 Paper jam in additional folding section

[EF18] Saddle Stitch Finisher additional folding roller home position detection error

Is there any mechanical problem when the additional folding carrier is moved?

- ↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the additional folding home position sensor (S39)?

- I →YES • Reconnect the connector securely if there is any disconnection.
- I • Reinstall the sensor correctly if there is any incorrect installation.
- ↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the additional folding home position sensor (S39) or the additional folding motor encoder sensor (S42) and the CN19 of the saddle control PC board (SDL) disconnected or open circuited?

Is the harness between the additional folding motor (M20) and the CN18 of the saddle control PC board (SDL) disconnected or open circuited?

- I →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[CB93] Saddle Stitch Finisher additional folding motor (M20) abnormality

***The [CB93] error also occurs when the error [EF18] has occurred consecutively for 3 times.**

Is there any mechanical problem when the additional folding carrier is moved?

- ↓ →YES Fix the mechanism.

NO

Is the harness between the additional folding motor (M20) and the CN18 of the saddle control PC board (SDL) disconnected or open circuited?

- I →YES • Reconnect the connector securely if there is any disconnection.
- ↓ • Replace the harness if open circuited.

NO

1. Replace the additional folding motor (M20).
2. Replace the saddle control PC board (SDL).

6.3 Other Errors

6.3.1 Stapler related error

[EA50] Stapling jam

Is there any paper remaining on the transport path in the finisher or equipment, or on the finishing tray?

↓ →YES Remove the paper.

NO

Is the jam cleared by taking off the staple cartridge from the finisher and removing the staple sheet slid from the staple case?

↓ →YES End.

NO

Is there any mechanical problem when the actuator of the stapler interference sensor (S11) is moved?

↓ →YES Reinsert the clip which fixes the actuator from the side of it.

NO

Is the harness between the stapler and the finisher control PC board (CN19) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.

↓ • Replace the harness if open circuited.

NO

Are the harnesses in the stapler disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.

↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[CB50] Stapler home position error

*** The [CB50] error also occurs when the error [EA50] has occurred consecutively for 3 times.**

Is the harness between the stapler and the CN19 of the finisher control PC board (FIN) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.

↓ • Replace the harness if open circuited.

NO

Is any of the harnesses in the stapler disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.

↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board.

[CB51] Stapler shift home position error

Is there any mechanical problem when the stapler is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the stapler unit home position sensor (S10)?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Reinstall the sensor correctly if there is any incorrect installation.
↓ • Replace the sensor if there is any breakage.

NO

Is the harness between the stapler unit home position sensor (S10) and the CN21 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the stapler unit shift motor (M9) and the CN10 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[CB60] Stapler unit shift motor (M9) abnormality

Is there any mechanical problem when the stapler is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the stapler unit shift motor (M9) and the CN10 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the stapler unit shift motor (M9).
2. Replace the finisher control PC board (FIN).

6.3.2 Saddle Stitch Finisher stapler related error (MJ-1104)

[EF11] Front saddle staple error

Is there any paper remaining on the paper transport path in the Finisher or the equipment, or on the finishing tray?

↓ →YES Remove the paper.

NO

Is the jam released by taking off the front staple cartridge from the Finisher and removing the staple sheet slid from the staple case?

↓ →YES End.

NO

Is the harness between the front saddle stapler drive unit and the CN3 of the saddle control PC board (SDL) disconnected or open circuited?

I →YES • Reconnect the connector securely.
↓ • Replace the harness if open circuited.

NO

1. Reconnect the connector securely if there is any disconnection.
2. Replace the saddle control PC board (SDL).

[EF12] Rear saddle staple error

Is there any paper remaining on the paper transport path in the Finisher or the equipment, or on the finishing tray?

↓ →YES Remove the paper.

NO

Is the jam released by taking off the rear staple cartridge from the Finisher and removing the staple sheet slid from the staple case?

↓ →YES End.

NO

Is the harness between the rear saddle stapler drive unit and the CN3 of the saddle control PC board (SDL) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the rear saddle stapler drive unit.
2. Replace the saddle control PC board (SDL).

[CBA0] Front saddle stapler home position error

Is the harness between the front saddle stapler clinch unit and the CN6 of the saddle control PC board (SDL) disconnected or open circuited?

I →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the front saddle stapler clinch unit.
2. Replace the saddle control PC board (SDL).

[CBB0] Rear saddle stapler home position error

Is the harness between the rear saddle stapler clinch unit and the CN7 of the saddle control PC board (SDL) disconnected or open circuited?

- ↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the rear saddle stapler clinch unit.
2. Replace the saddle control PC board (SDL).

6.3.3 Communication Related Error

[CB00] Finisher not connected / [CB01] Finisher communication error**(when MJ-6102 is not connected)**

1. Is the error recovered when the power of the equipment is turned OFF and then back ON?
2. Check if the MJ-1103 or MJ-1104 is set as the specified finisher on the equipment.
3. Check if the harness between the converter PC board of the equipment and the finisher control PC board (FIN) is disconnected or open circuited.
4. Update the firmware version of the converter PC board.
5. Check if the conductor pattern on the finisher control PC board (FIN) is open circuited or short circuited.
6. Update the firmware version of the finisher control PC board (FIN).
7. Replace the finisher control PC board (FIN).
8. Replace the converter PC board.

(when MJ-6102 is connected)

1. Is the error recovered when the power of the equipment is turned OFF and then back ON?
2. Check if the MJ-1103 or the MJ-1104 is set as the specified finisher on the equipment.
3. Check if the harness between the converter PC board of the equipment and the finisher control PC board (FIN) is disconnected or open circuited.
4. Update the firmware version of the converter PC board.
5. Check if the harness between the hole punch control PC board (HP) and the interface PC board (I/F) is disconnected or open circuited.
6. Check if the harness between the interface PC board (I/F) and the finisher control PC board (FIN) is disconnected or open circuited.
7. Check if the conductor pattern on the interface PC board (I/F) is open circuited or short circuited.
8. Check if the conductor pattern on the finisher control PC board (FIN) is open circuited or short circuited.
9. Check if the conductor pattern on the hole punch control PC board (HP) is open circuited or short circuited.
10. Update the firmware version of the finisher control PC board (FIN).
11. Replace the interface PC board (I/F).
12. Replace the finisher control PC board (FIN).
13. Replace the hole punch control PC board (HP).
14. Replace the converter PC board of the equipment.

[CC20] Saddle communication error (MJ-1104)

1. Check if the harness between the finisher control PC board (FIN) and the interface PC board (I/F) is disconnected or open circuited.
2. Check if the harness between the saddle control PC board (SDL) and the interface PC board (I/F) is disconnected or open circuited.
3. Check if the conductor pattern on the interface PC board (I/F) is open circuited or short circuited.
4. Check if the conductor pattern on the finisher control PC board (FIN) is open circuited or short circuited.
5. Check if the conductor pattern on the saddle control PC board (SDL) is open circuited or short circuited.
6. Update the firmware version of the finisher control PC board (FIN).
7. Update the firmware version of the saddle control PC board (SDL).
8. Replace the interface PC board (I/F).
9. Replace the saddle control PC board (SDL).
10. Replace the finisher control PC board (FIN).

[CB82] Finisher main program error

1. Update the firmware version of the finisher control PC board (FIN).
2. Replace the finisher control PC board (FIN).

[CB83] Saddle main program error

1. Update the firmware version of the saddle control PC board (ADL).
2. Replace the saddle control PC board (SDL).

[EF10] Selecting paper not supported by Saddle Stitch Finisher**6.3.4 Memory error****[CB80] RAM abnormality**

Is the error recovered when the power of the equipment is turned OFF and then back ON?

↓ →YES End.

NO

Replace the finisher control PC board (FIN).

[CB92] Saddle RAM abnormality

Is the error recovered when the power of the equipment is turned OFF and then back ON?

↓ →YES End.

NO

Replace the Saddle control PC board (SDL).

[CB81] Flash ROM abnormality

Is the error recovered when the power of the equipment is turned OFF and then back ON?

↓ →YES End.

NO

1. Check if the conductor pattern on the finisher controller PC board (FIN) is open circuited or short circuited.
2. Replace the finisher control PC board (FIN).

[CB91] Saddle flash ROM abnormality

Is the error recovered when the power of the equipment is turned OFF and then back ON?

↓ →YES End.

NO

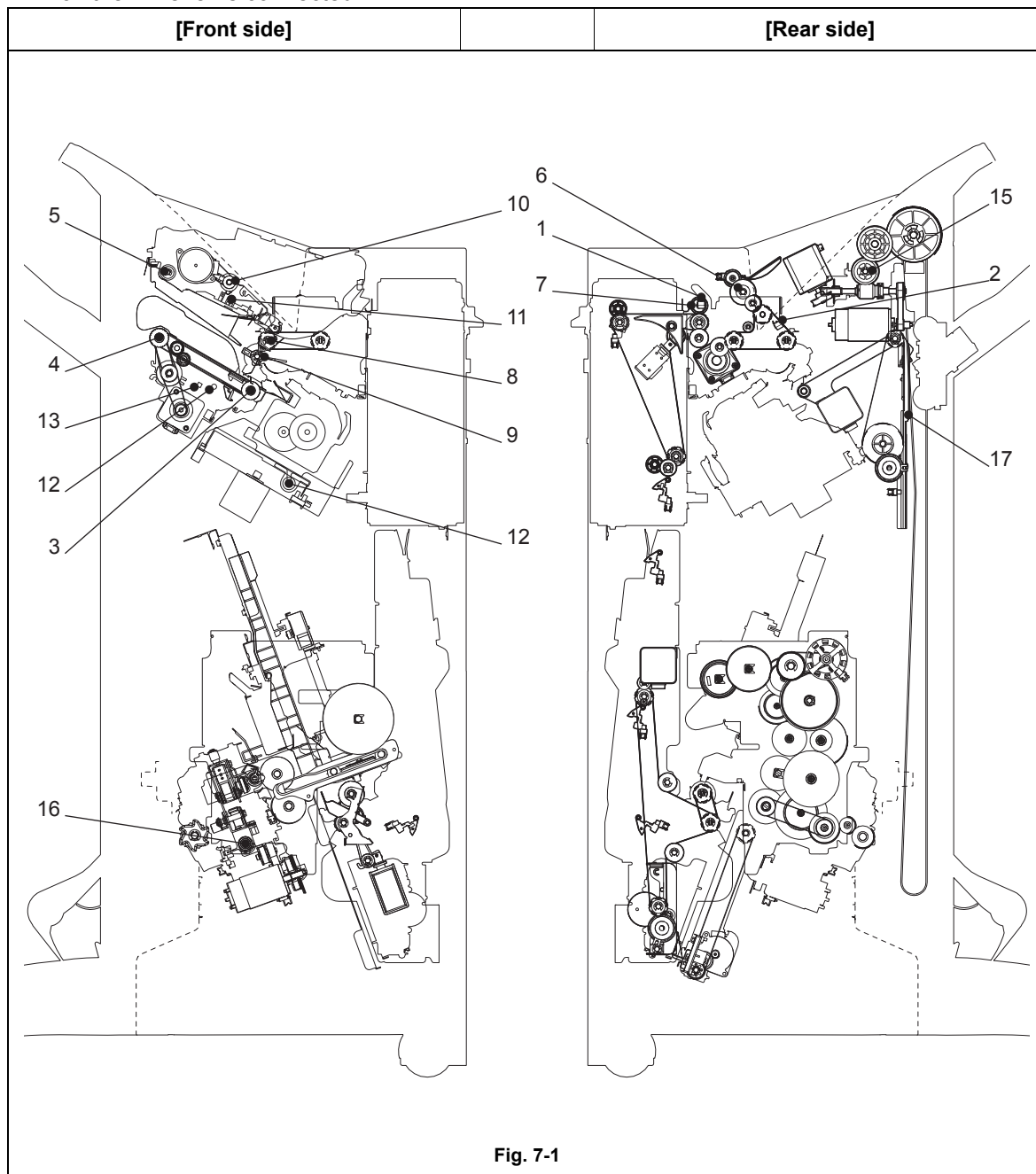
1. Check if the conductor pattern on the saddle controller PC board (SDL) is open circuited or short circuited.
2. Replace the saddle control PC board (SDL).

7. PREVENTIVE MAINTENANCE (PM) / FIRMWARE UPDATE

7.1 Maintenance and Inspection Points

Perform preventive maintenance according to the check list.

* Perform preventive maintenance for the Finisher at the same interval as for the main equipment to which the Finisher is connected.



Symbols used in the checklist

Cleaning	Lubrication/Coating	Replacement	Operation check
A: Clean with alcohol B: Clean with soft pad, cloth or vacuum cleaner	L: Launa 40 SI: Silicon oil W1: White grease (Molykote X5-6020) W2: White grease (Molykote HP-300) W3: White grease (Molykote EM-30L) AV: Alvania No.2 FL: Floil (GE-334C) C: Coating material (Molykote CFD-409M)	Value: Replacement cycle (output pages or develop counts) R: Replace if deformed or damaged	O: After cleaning or replacement, confirm there is no problem.

Preventive Maintenance Checklist

	Items to check	Cleaning	Lubrication	Replacement (x1,000)	Operation check	Parts list (P-I)	Remarks
1	Entrance sensor (S1)	A					
2	Transport sensor (S2)	A					
3	Stack transport roller-1	A					
4	Stack transport roller-2	A					
5	Buffer roller	A					
6	Exit roller	A					
7	Entrance roller	A					
6	Transport roller	A					
9	Paddle			1,000			
10	Paper pusher cam		W3				*a
11	Buffer tray shaf		W3				*b
12	Stapler carrier shaft		W3				*c
13	Rack gear (Aligning plate)		W3				*d
14	Finishing tray shaft		W3				*e
15	Movable tray drive gear		W2				*f
16	EFS carrier shaft		W3				*g
17	Grate-shaped guide	A	W3				*h

*a. Paper pusher cam

Apply an adequate amount of white grease (Molykote EM-30L) all around the paper pusher cam.

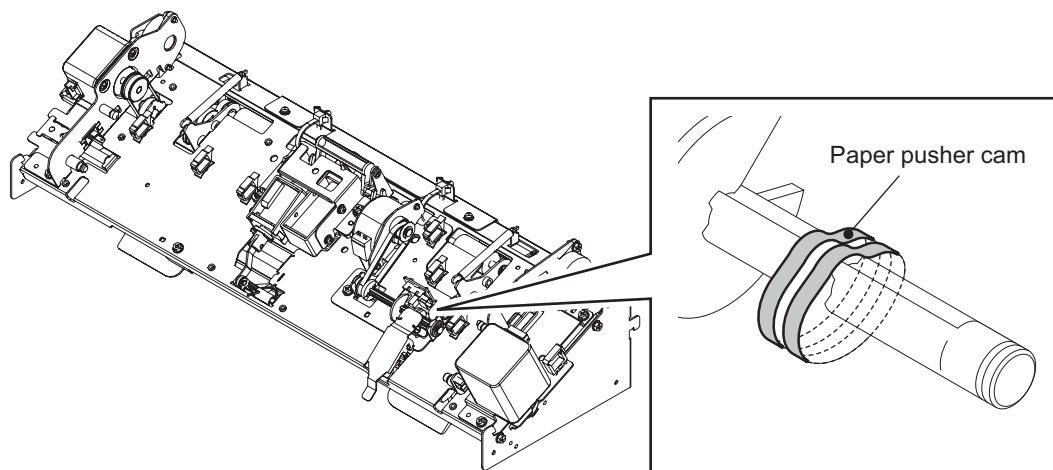


Fig. 7-2

***b. Buffer tray shaft**

Apply an adequate amount of white grease (Molykote EM-30L) to the entire buffer tray shaft.

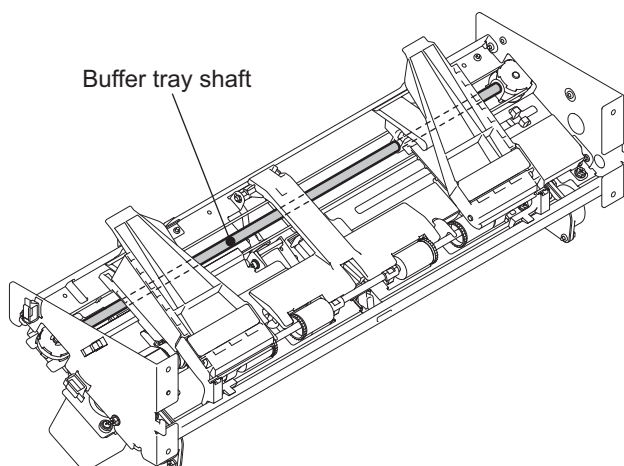


Fig. 7-3

***c. Stapler carrier shaft**

Apply an adequate amount of white grease (Molykote EM-30L) to the entire stapler carrier shaft.

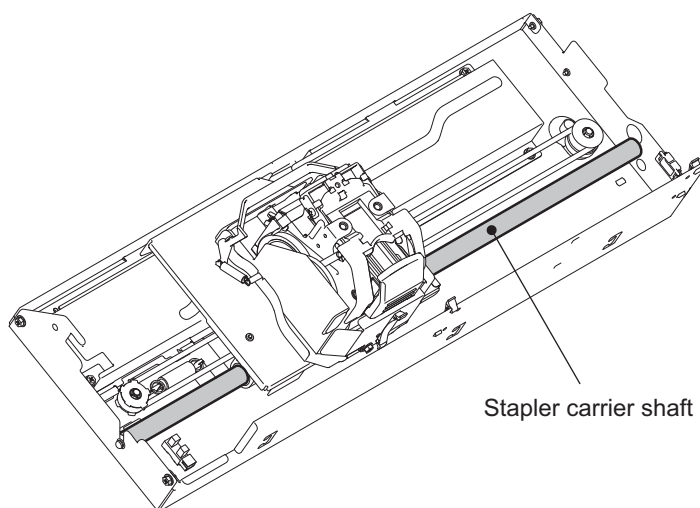


Fig. 7-4

*d. Rack gear (Aligning plate)

*e. Finishing tray shaft

1. Take off the junction box unit. (P.4-13 "[A] Junction box unit")

* If the hole punch unit is installed, take it off beforehand.

2. Apply oil as follows through the opening which shows up when the junction box unit has been removed.

Apply an adequate amount of white grease (Molykote EM-30L) to the gear teeth of the rack gear which drive the aligning plate, and the entire finishing tray shaft.

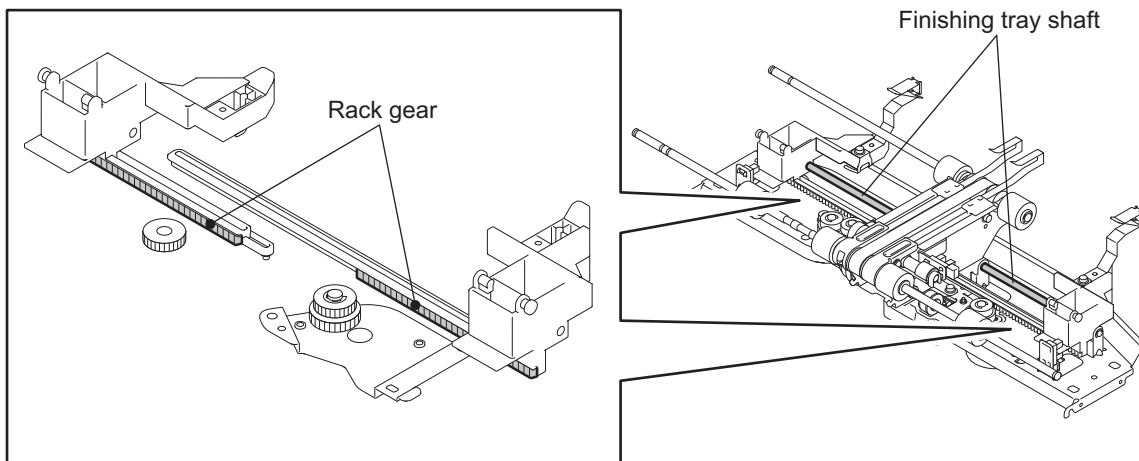


Fig. 7-5

*f. Movable tray drive gear

Apply an adequate amount of white grease (Molykote HP-300) to the gear teeth of the movable tray drive gear.

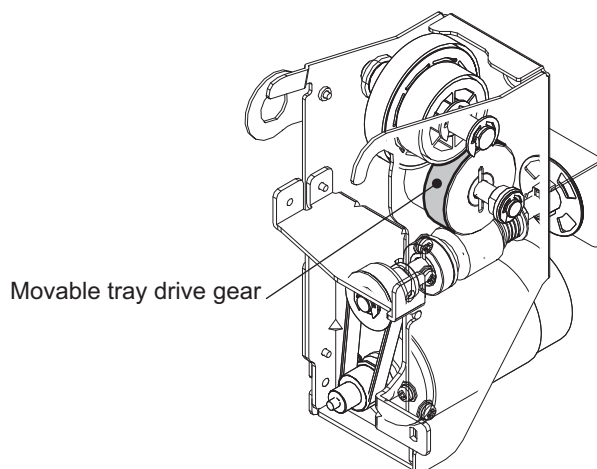
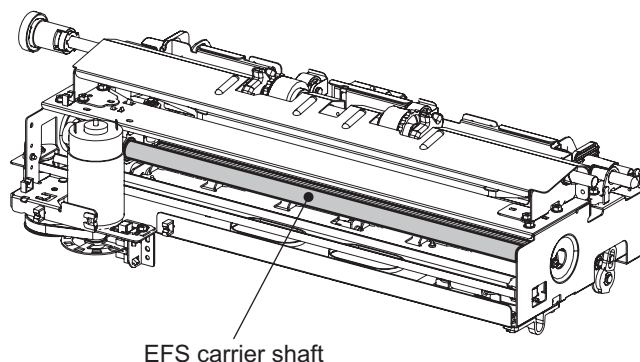


Fig. 7-6

*g EFS carrier shaft

Apply an adequate amount of white grease (Molykote EM-30L) to the entire EFS carrier shaft.



EFS carrier shaft

Fig. 7-7

*h Grate-shaped guide

After the grate-shaped guide is cleaned with alcohol, use a cleaning brush to apply coating material (Molykote CFD-409M) on the part with which the paper edge is in contact.

- * Use a cleaning brush (4407915710 BRUSH-33) because cloth contaminated with the coating material shall be treated as industrial waste.
- * Do not apply coating material (Molykote PD-910) to the rubber section of the grate-shaped tray.
- * When coating material adheres to the skin, rinse it well with water.

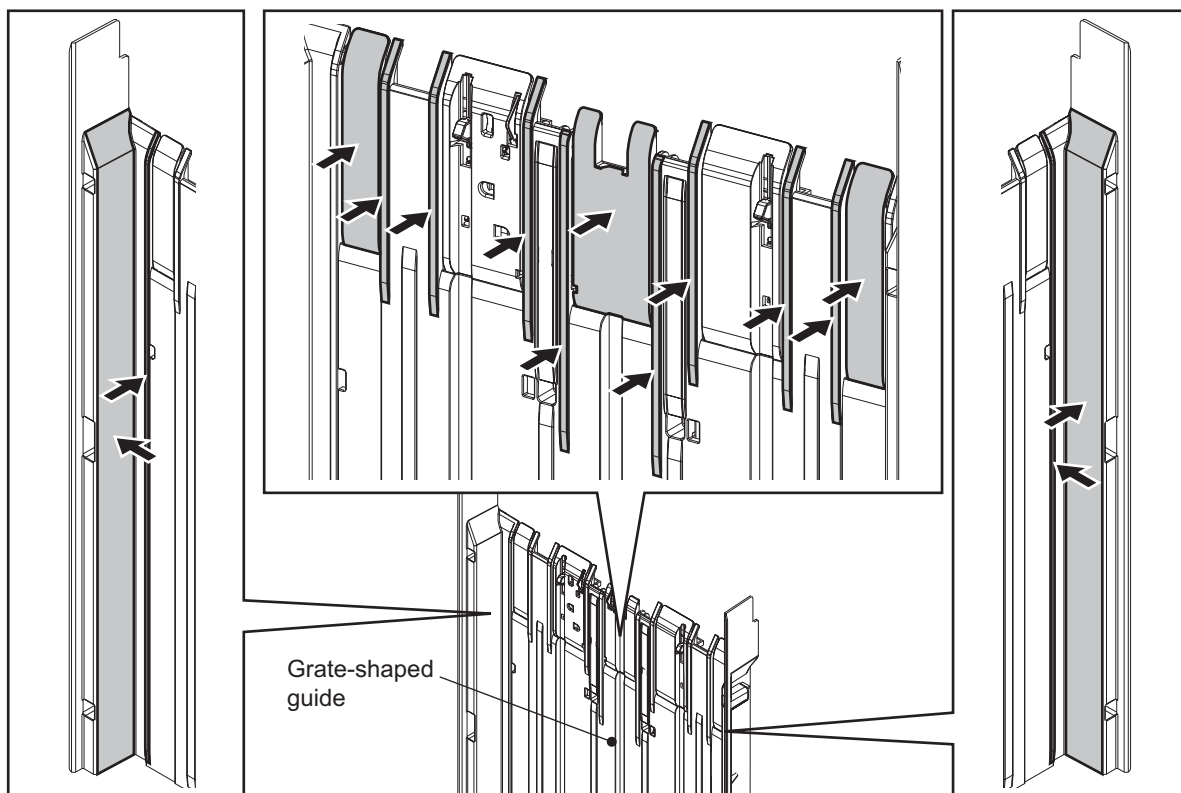


Fig. 7-8

7.2 Firmware Update

Connect the download jig to the control board and turn ON the power of the equipment to start the firmware update automatically.

Use the K-PWA-DLM-320 as a download jig.

7.2.1 Update of CNV board

- (1) Attach the ROM to the download jig.
Make sure that the ROM and its direction are correct.

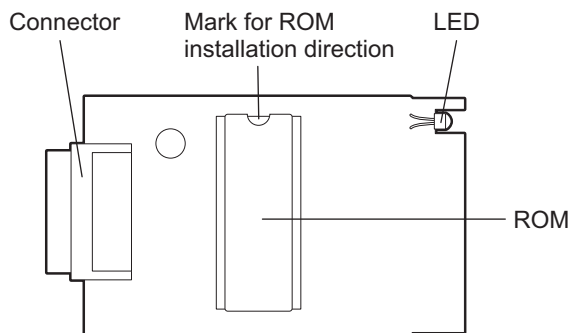


Fig. 7-9

- (2) Turn OFF the power of the equipment.
- (3) Remove 2 screw and take off the board access cover.

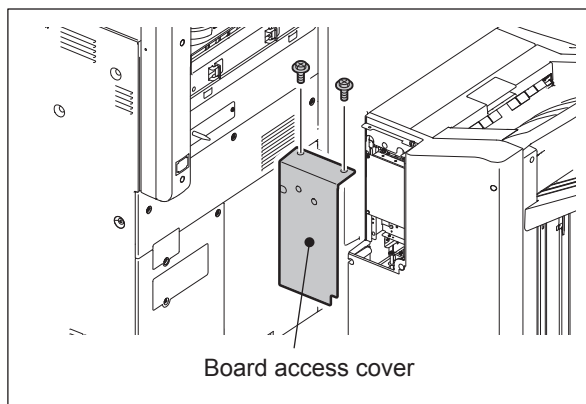


Fig. 7-10

- (4) Set the SW1 on the Finisher control board as shown in the figures below.
Turn ON pin 2.
- (5) Connect the download jig with the jig connector (CN28) on the Finisher control board.

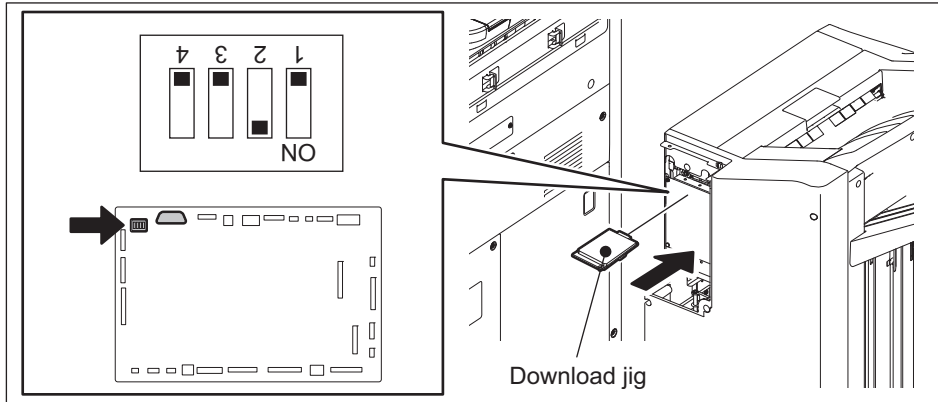


Fig. 7-11

- (6) Turn ON the power while pressing [0] and [8] simultaneously.
Updating starts and the LED on the download jig lights
- (7) When the update completes normally, the LED on the download jig starts blinking.

The LED on the download jig starts blinking in approx. 12 seconds after the update started.
It is assumed that the update is failed if the LED does not start blinking even after 20 seconds have elapsed.

In this case, turn the power OFF and check the following items.
Then, clear the problem and restart updating from the beginning.

- Is the downloading jig connected properly?
- Is the ROM attached to the downloading jig properly?
- Has the update data been written correctly to the ROM on the jig?
- Is the download jig or the equipment damaged?

- (8) Turn the power OFF and remove the download jig.
- (9) Turn OFF all bits of the SW1 on the Finisher control board.
- (10) Install the board access cover.

7.2.2 Update of FIN board

- (1) Attach the ROM to the download jig.
Make sure that the ROM and its direction are correct.

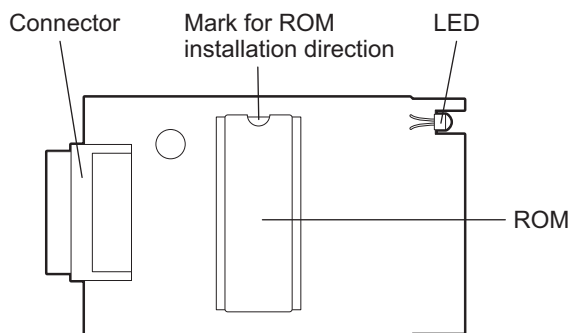


Fig. 7-12

- (2) Turn OFF the power of the equipment.
- (3) Remove 2 screw and take off the board access cover.

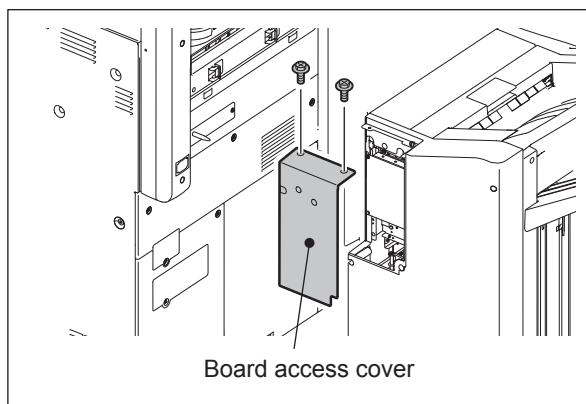


Fig. 7-13

- (4) Connect the download jig with the jig connector (CN28) on the Finisher control board.

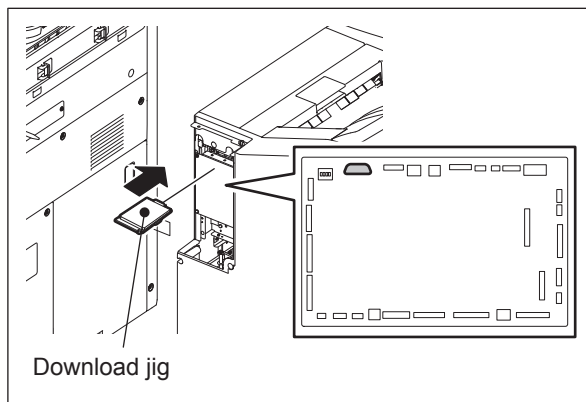


Fig. 7-14

- (5) Turn ON the power while pressing [0] and [8] simultaneously.
Updating starts and the LED on the download jig lights

- (6) When the update completes normally, the LED on the download jig starts blinking.

The LED on the download jig starts blinking in approx. 12 seconds after the update started. It is assumed that the update is failed if the LED does not start blinking even after 20 seconds have elapsed.

In this case, turn the power OFF and check the following items.

Then, clear the problem and restart updating from the beginning.

- Is the downloading jig connected properly?
- Is the ROM attached to the downloading jig properly?
- Has the update data been written correctly to the ROM on the jig?
- Is the download jig or the equipment damaged?

- (7) Turn the power OFF and remove the download jig.

- (8) Install the board access cover.

7.2.3 Update of SDL board

- (1) Attach the ROM to the download jig.
Make sure that the ROM and its direction are correct.

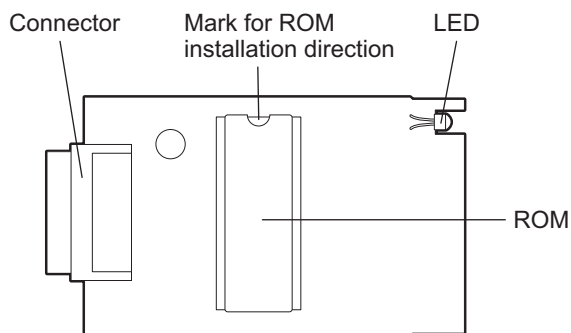


Fig. 7-15

- (2) Turn OFF the power of the equipment.
- (3) Open the front upper cover and then pull out the saddle unit.
- (4) Loosen 2 screws and open the saddle control PC board access cover.

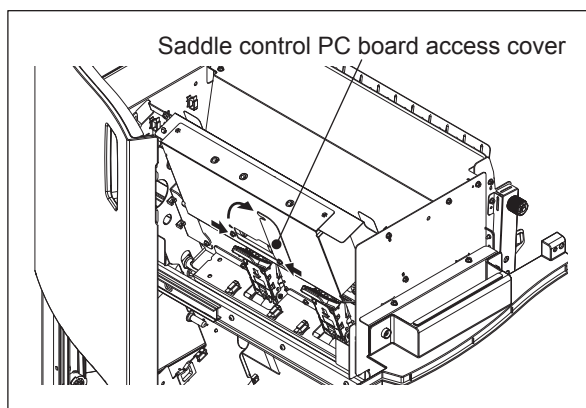


Fig. 7-16

- (5) Connect the download jig with the jig connector (CN16) on the Saddle control board.

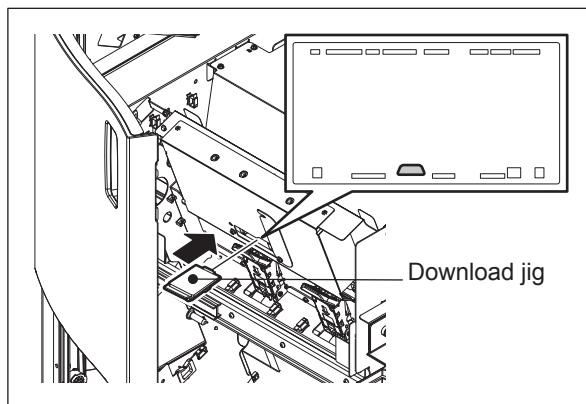


Fig. 7-17

- (6) Turn ON the power while pressing [0] and [8] simultaneously.
Updating starts and the LED on the download jig lights
- (7) When the update completes normally, the LED on the download jig starts blinking.

The LED on the download jig starts blinking in approx. 8 seconds after the update started.
It is assumed that the update is failed if the LED does not start blinking even after 15 seconds have elapsed.

In this case, turn the power OFF and check the following items.
Then, clear the problem and restart updating from the beginning.

- Is the downloading jig connected properly?
- Is the ROM attached to the downloading jig properly?
- Has the update data been written correctly to the ROM on the jig?
- Is the download jig or the equipment damaged?

- (8) Turn the power OFF and remove the download jig.
- (9) Install the saddle control PC board access cover.
- (10) Set the saddle unit back to the main unit and then close the upper front cover.

8. ELECTRIC CIRCUIT

8.1 Harness Diagram

[A] Finisher control PC board

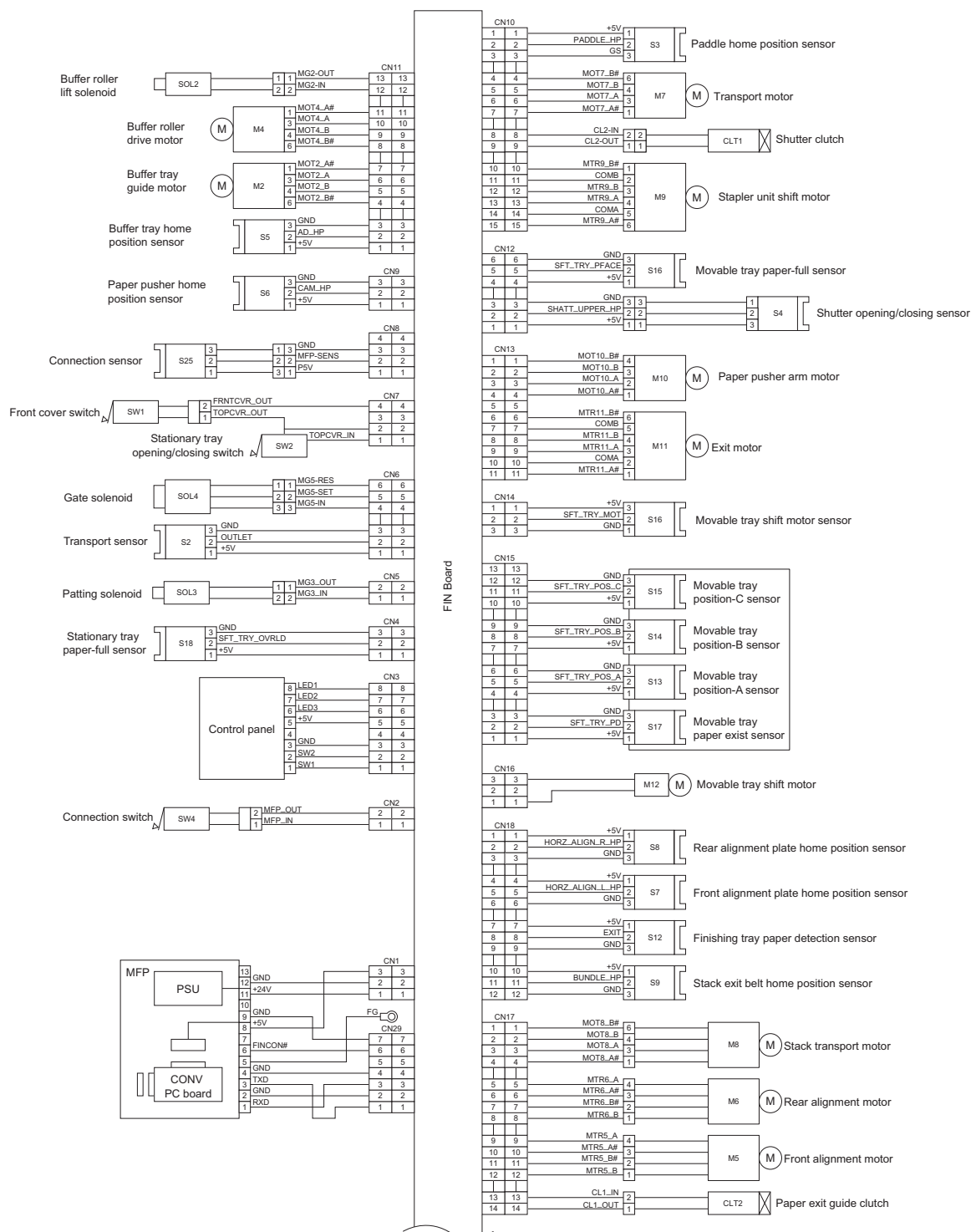


Fig. 8-1

[B] Interface PC board

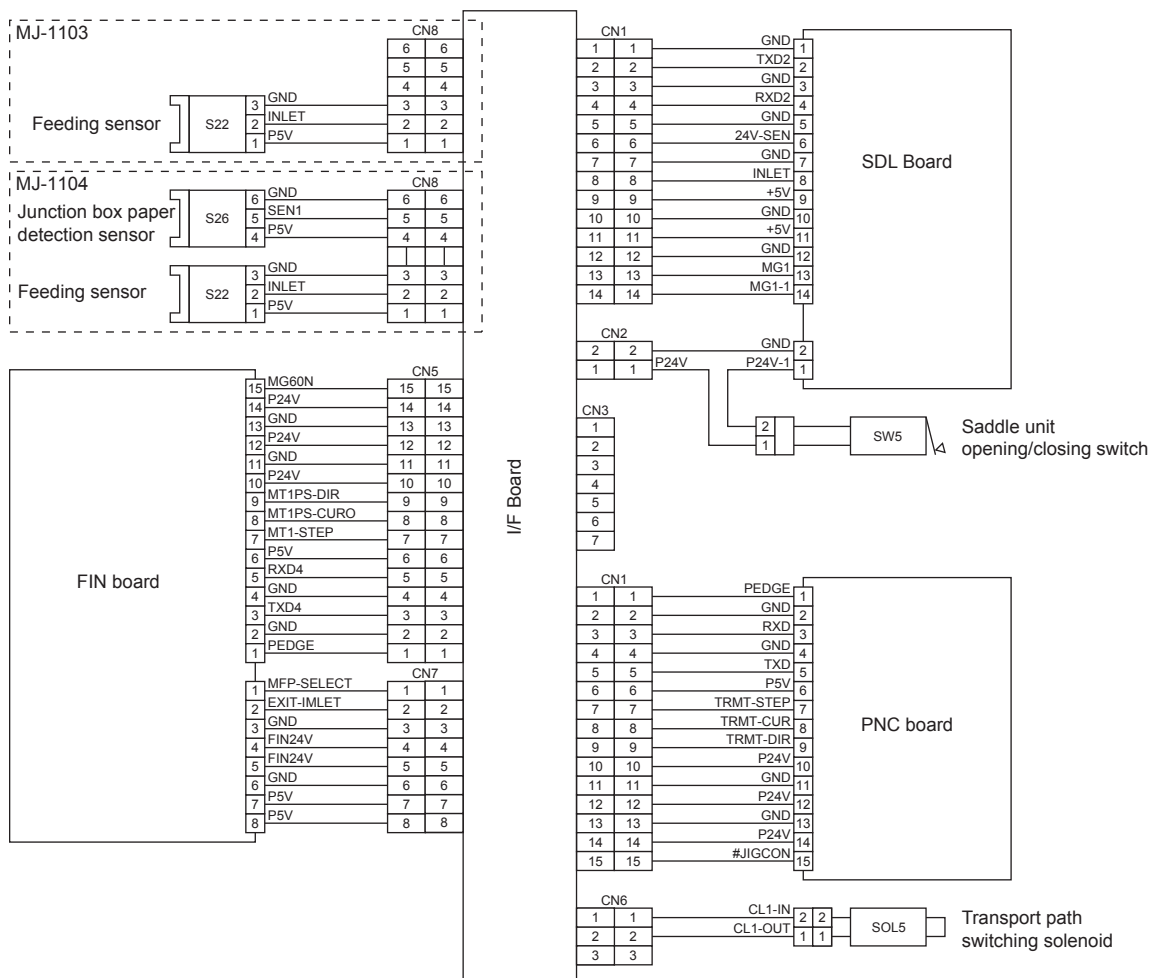


Fig. 8-3

[C] Saddle control PC board

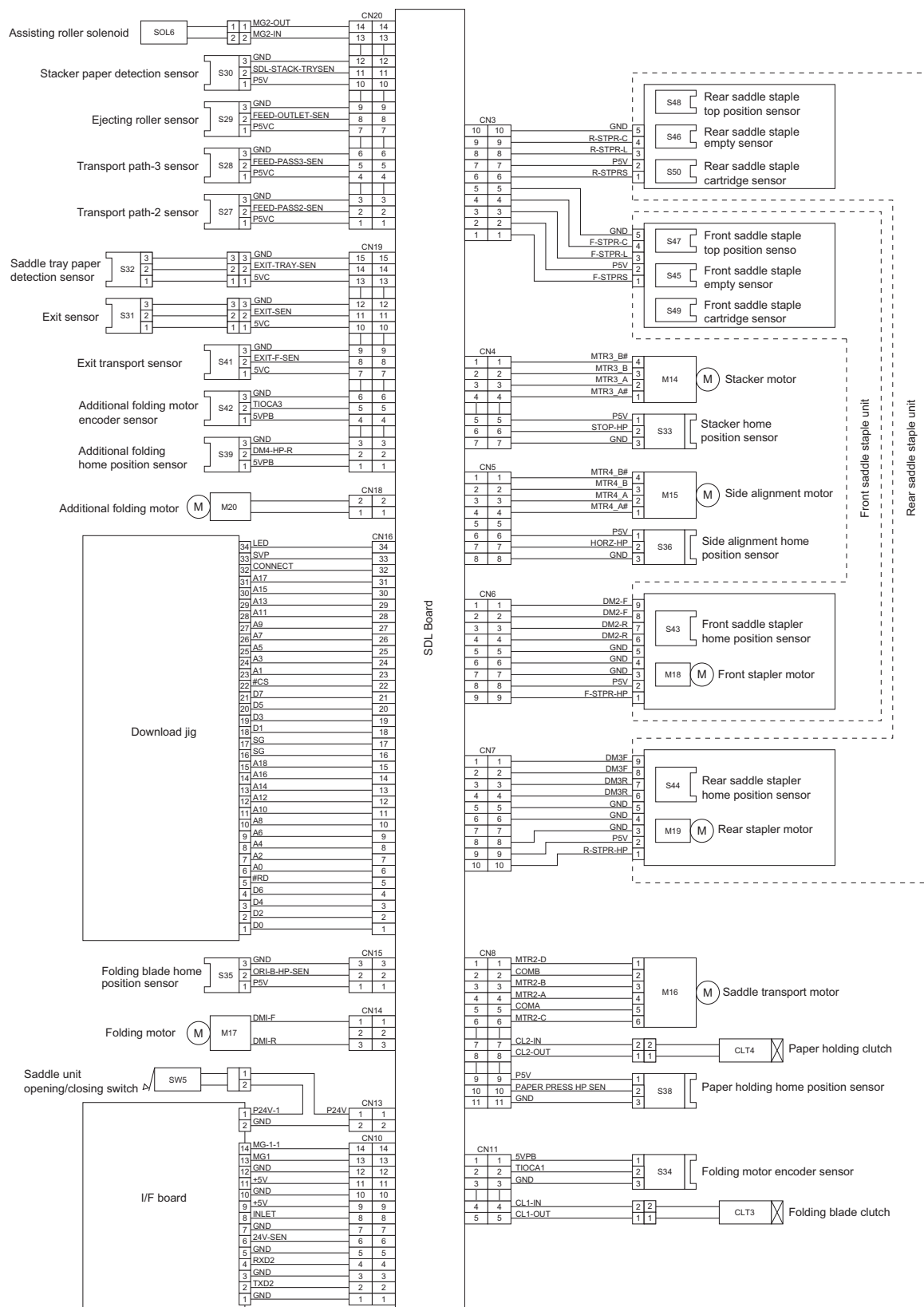


Fig. 8-4

8

1. Circuit Diagram (1)



3. Circuit Diagram (3)

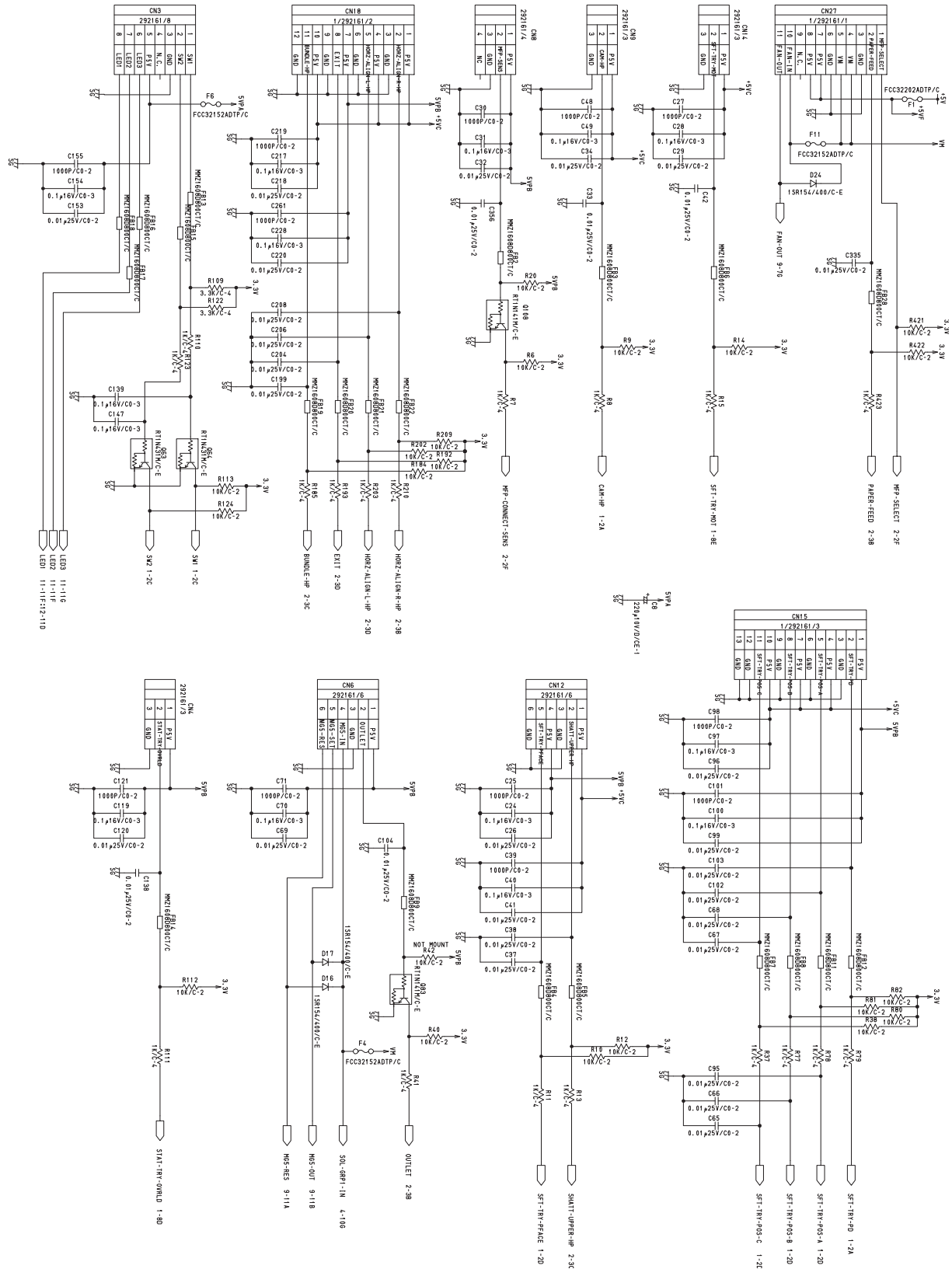


Fig. 8-7

4. Circuit Diagram (4)

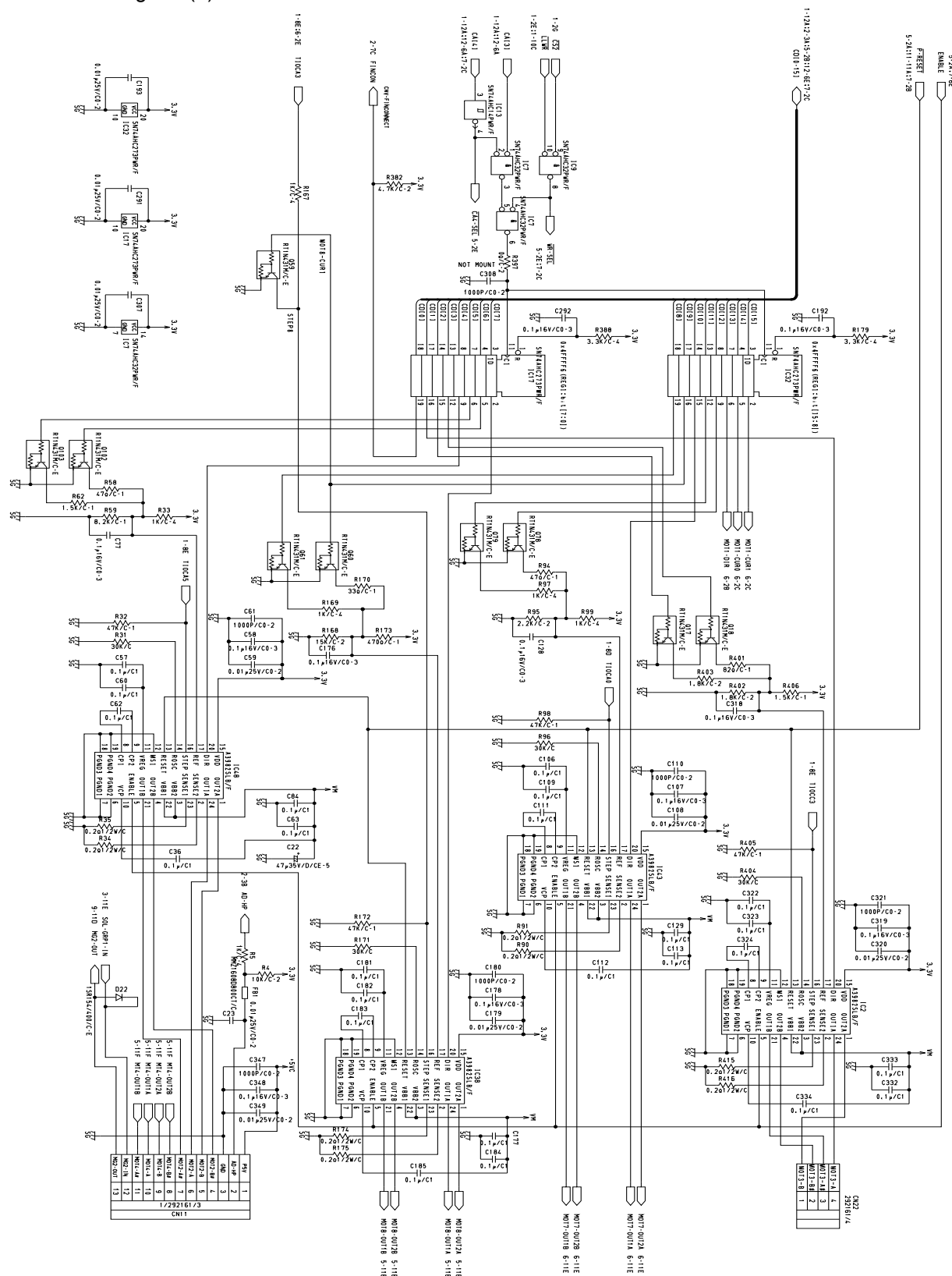


Fig. 8-8

5. Circuit Diagram (5)

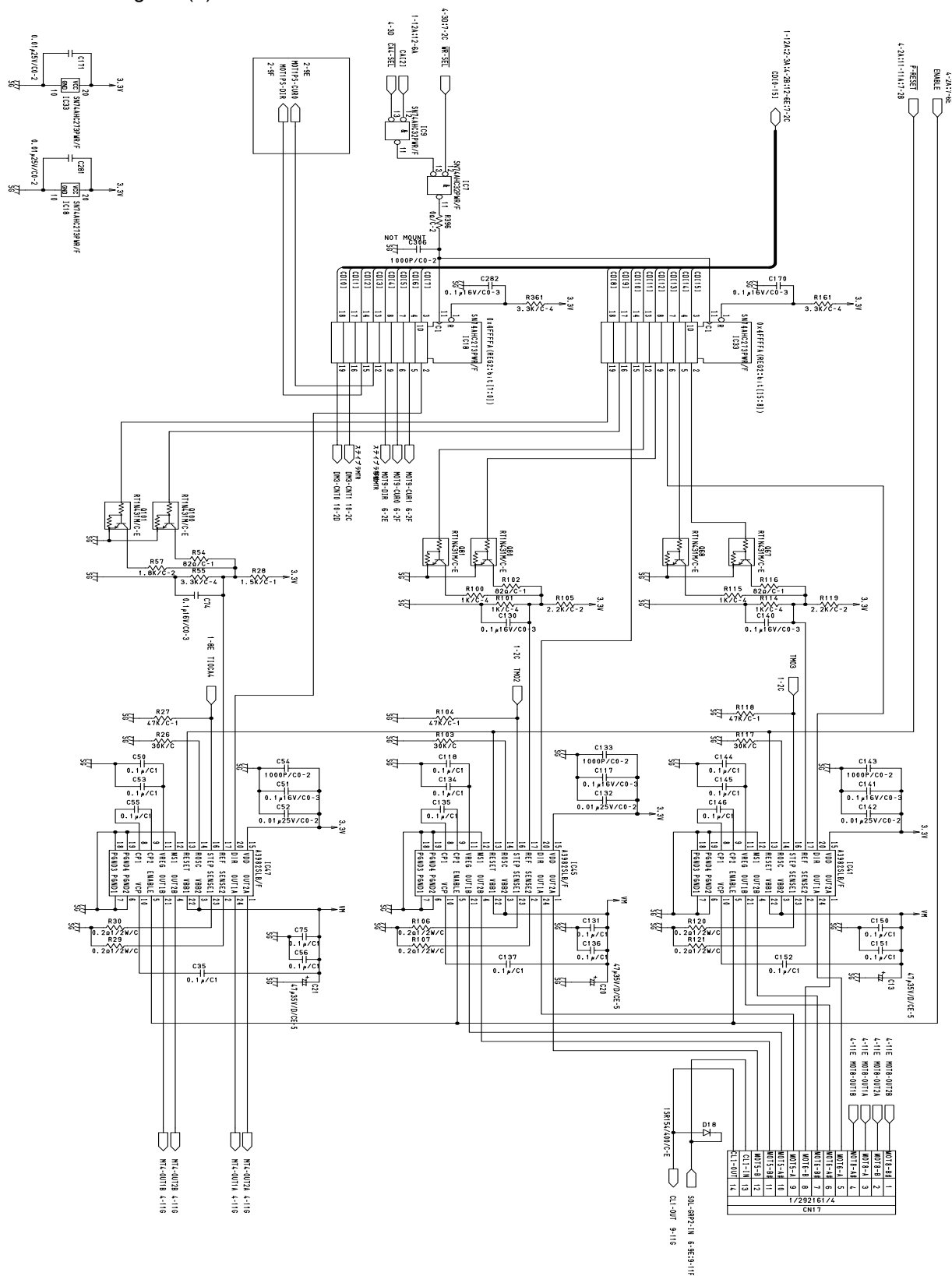


Fig. 8-9

7. Circuit Diagram (7)

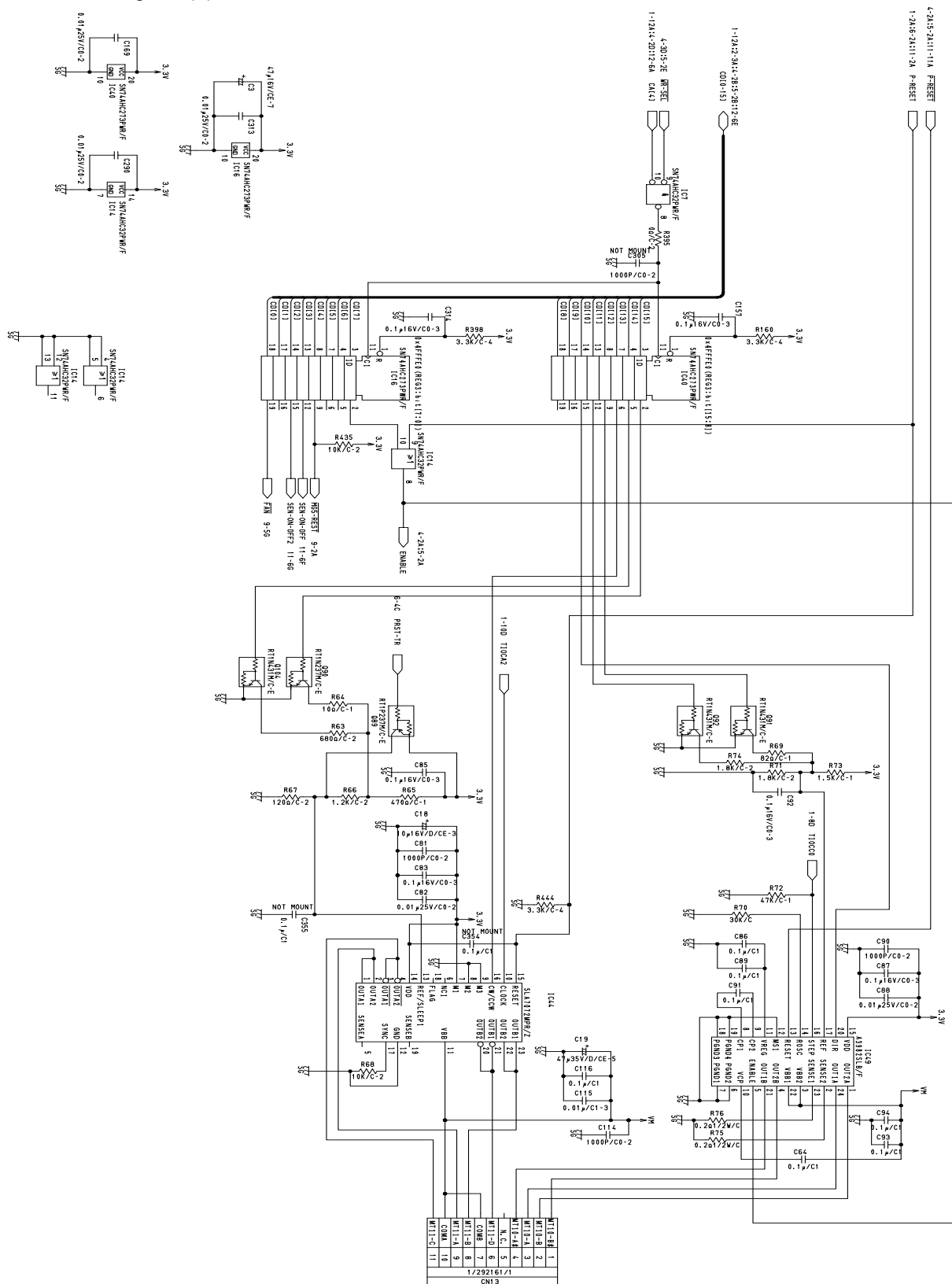


Fig. 8-11

9. Circuit Diagram (9)

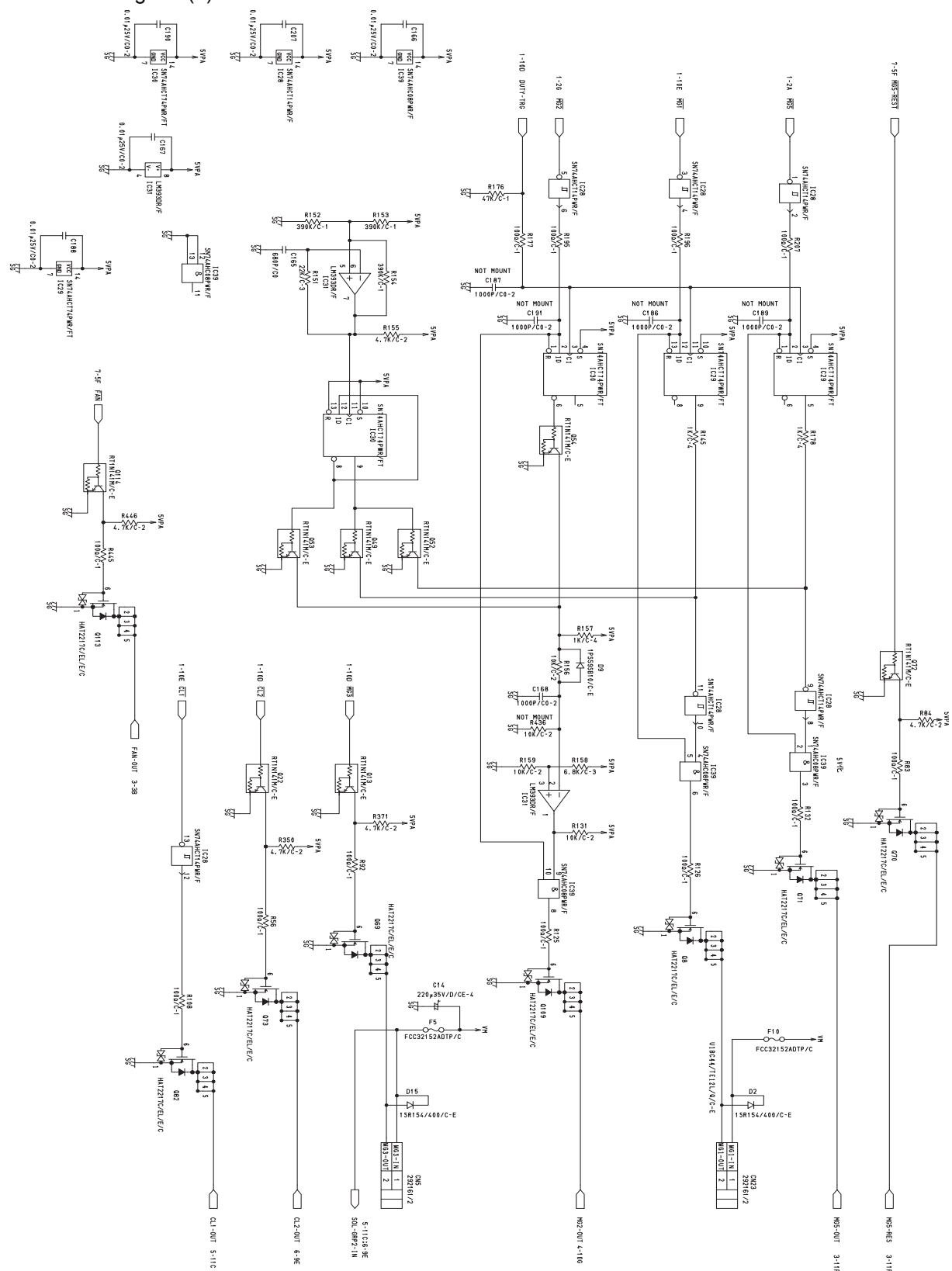
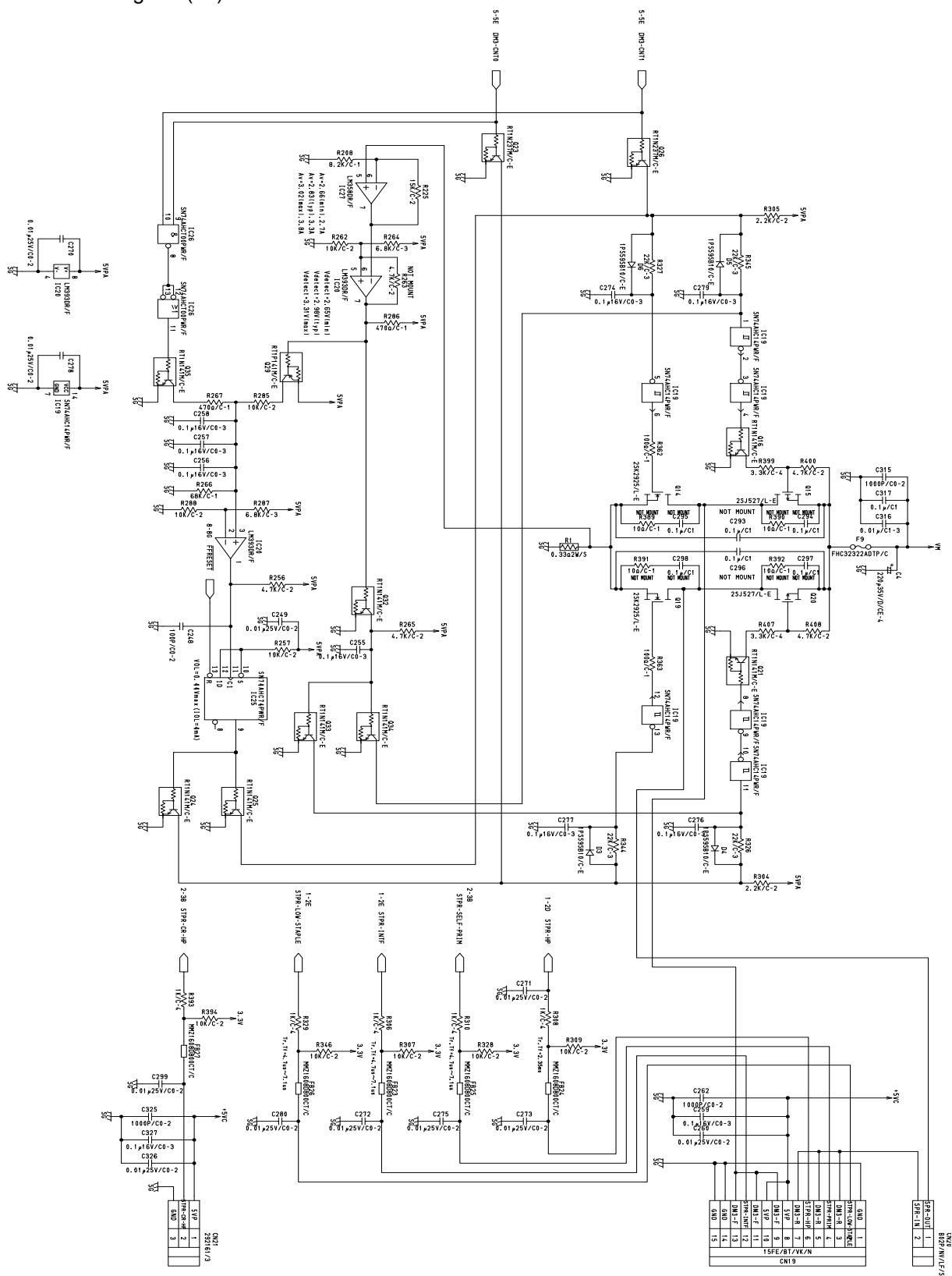


Fig. 8-13

MJ-1103/1104
ELECTRIC CIRCUIT



8



MJ-1103/1104
ELECTRIC CIRCUIT

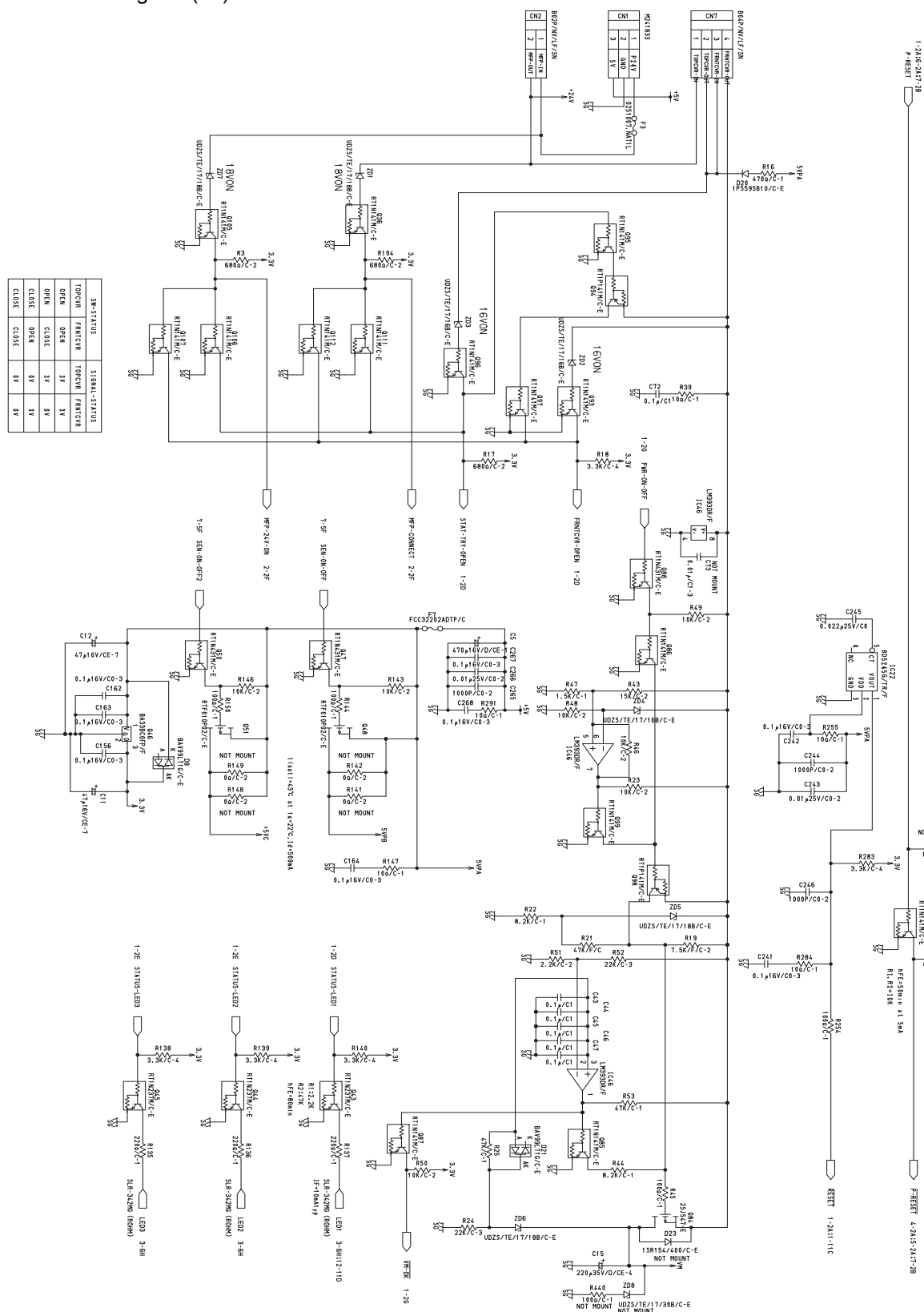


Fig. 8-16

[B] Interface PC board

1. Circuit Diagram (1)

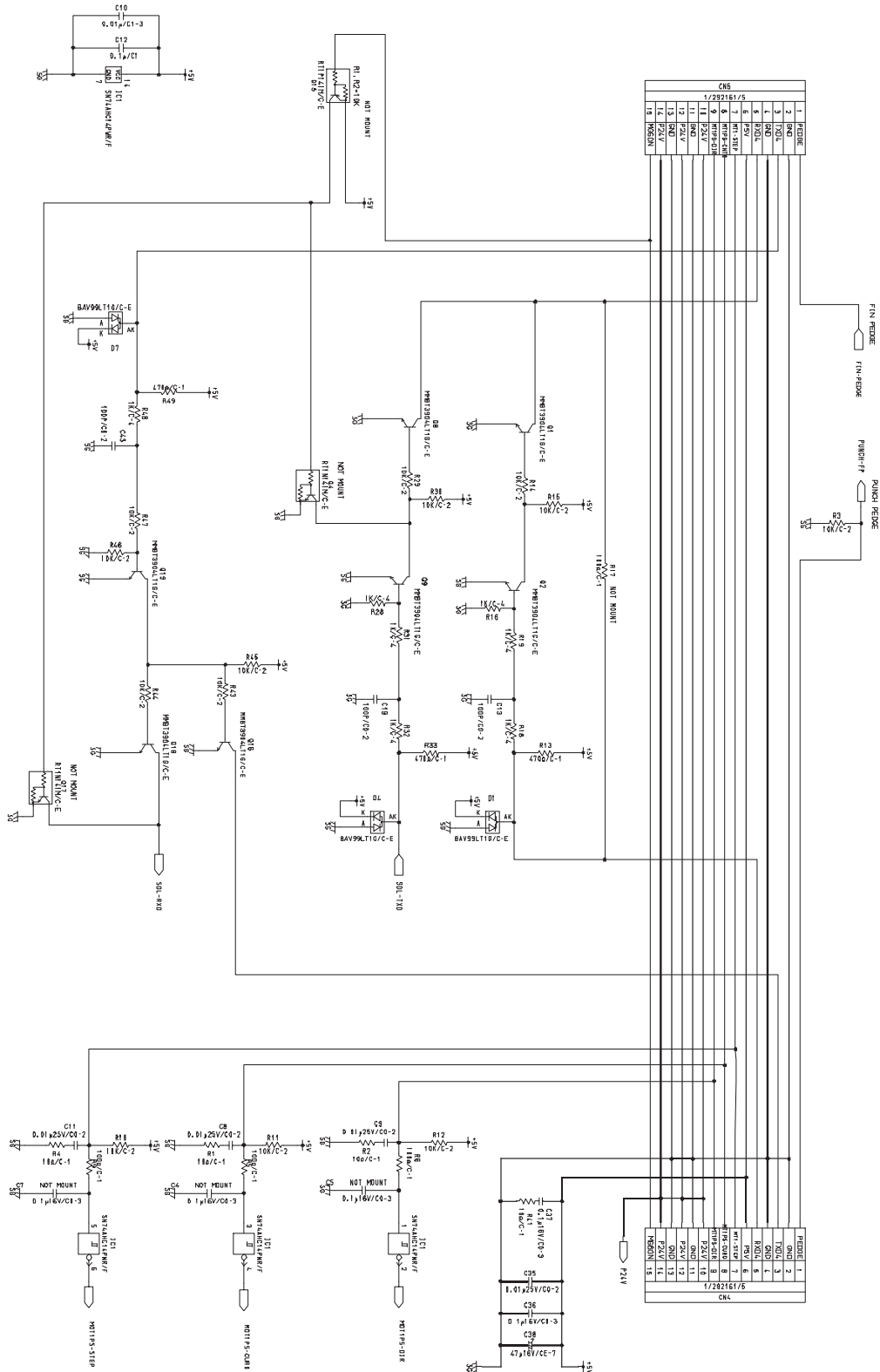


Fig. 8-17

2. Circuit Diagram (2)

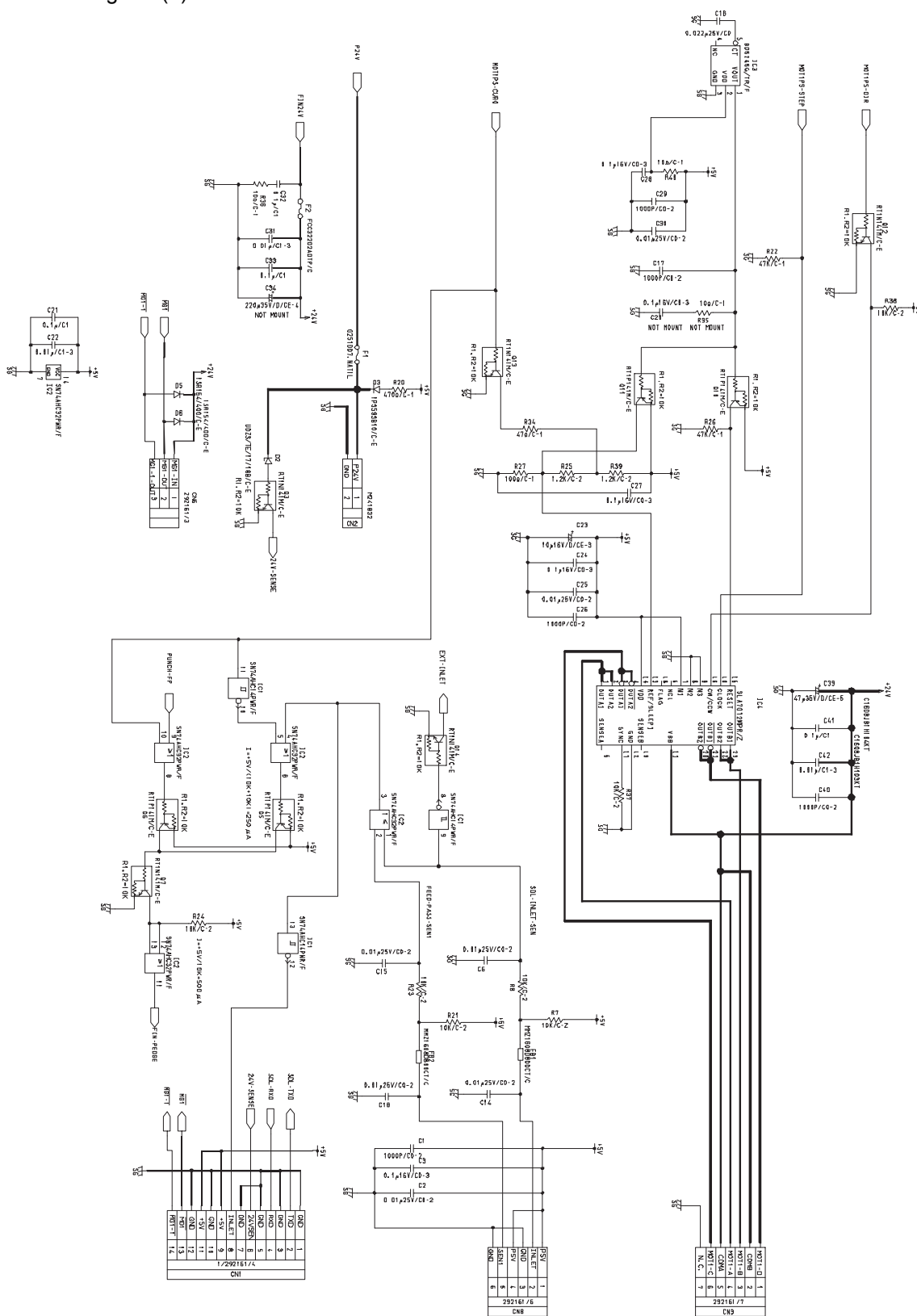


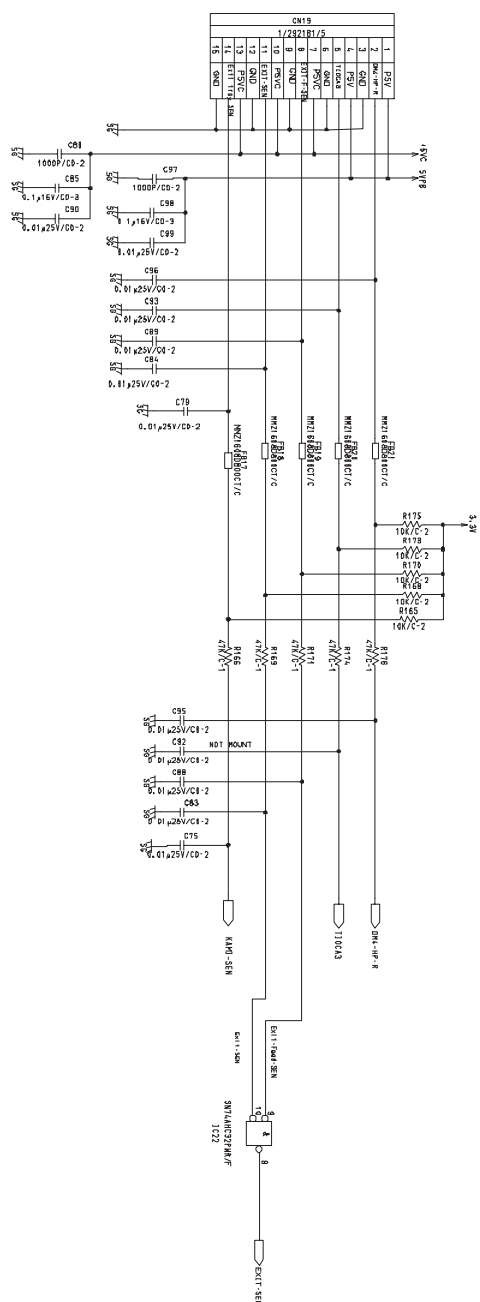
Fig. 8-18

1. Circuit Diagram (1)



MJ-1103/1104
ELECTRIC CIRCUIT

8



8 - 21

4. Circuit Diagram (4)

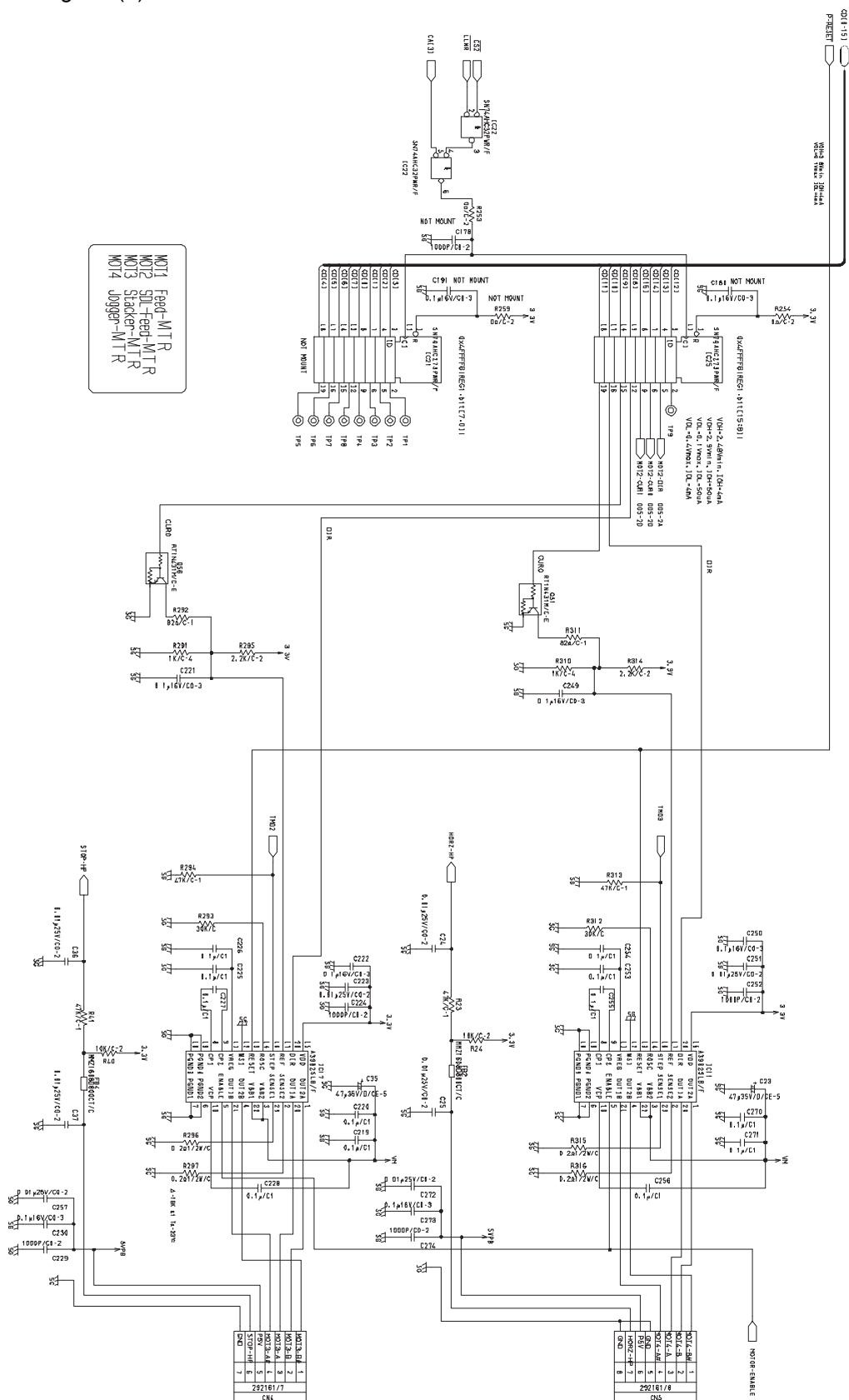
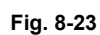


Fig. 8-22

8



6. Circuit Diagram (6)

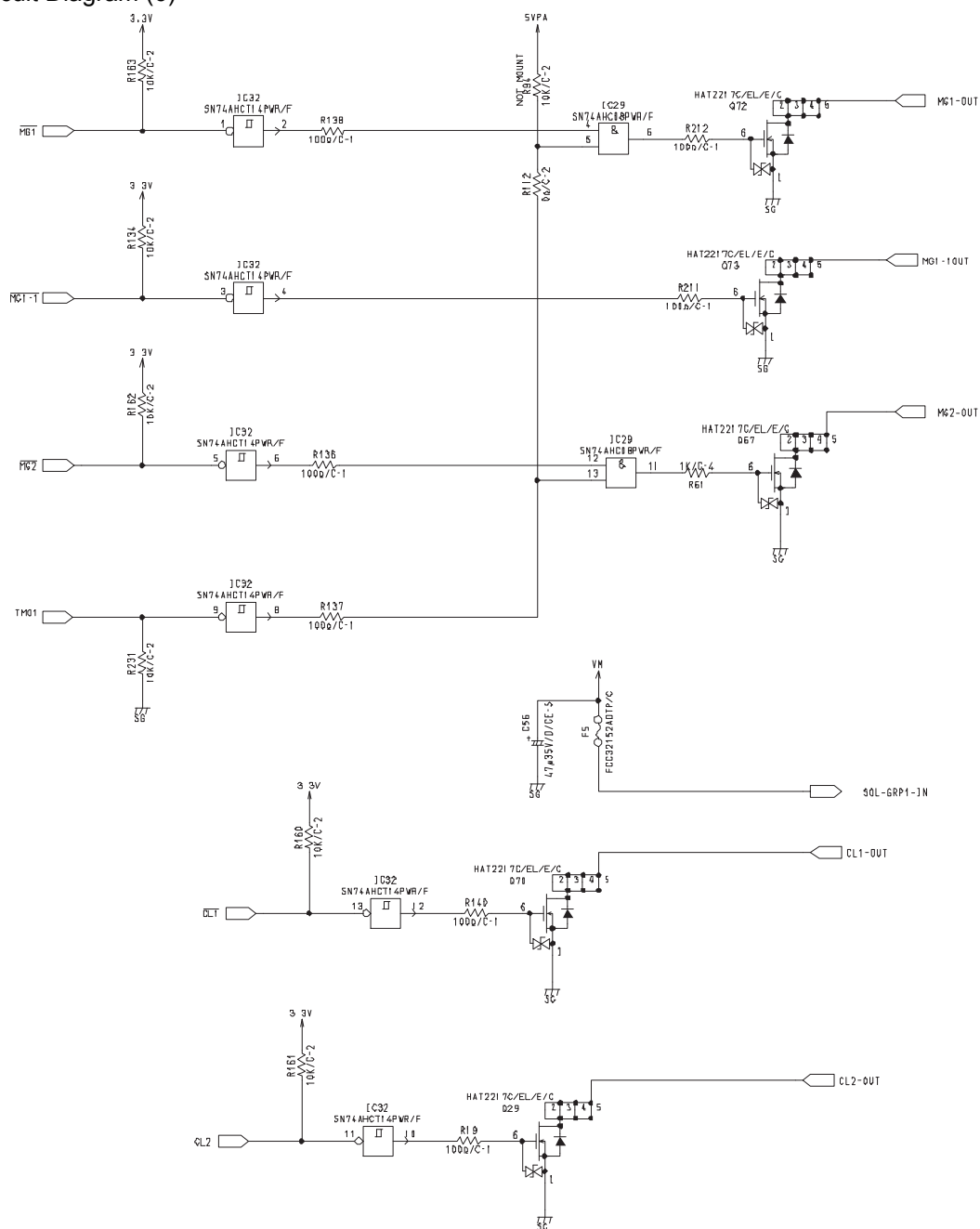


Fig. 8-24

7. Circuit Diagram (7)

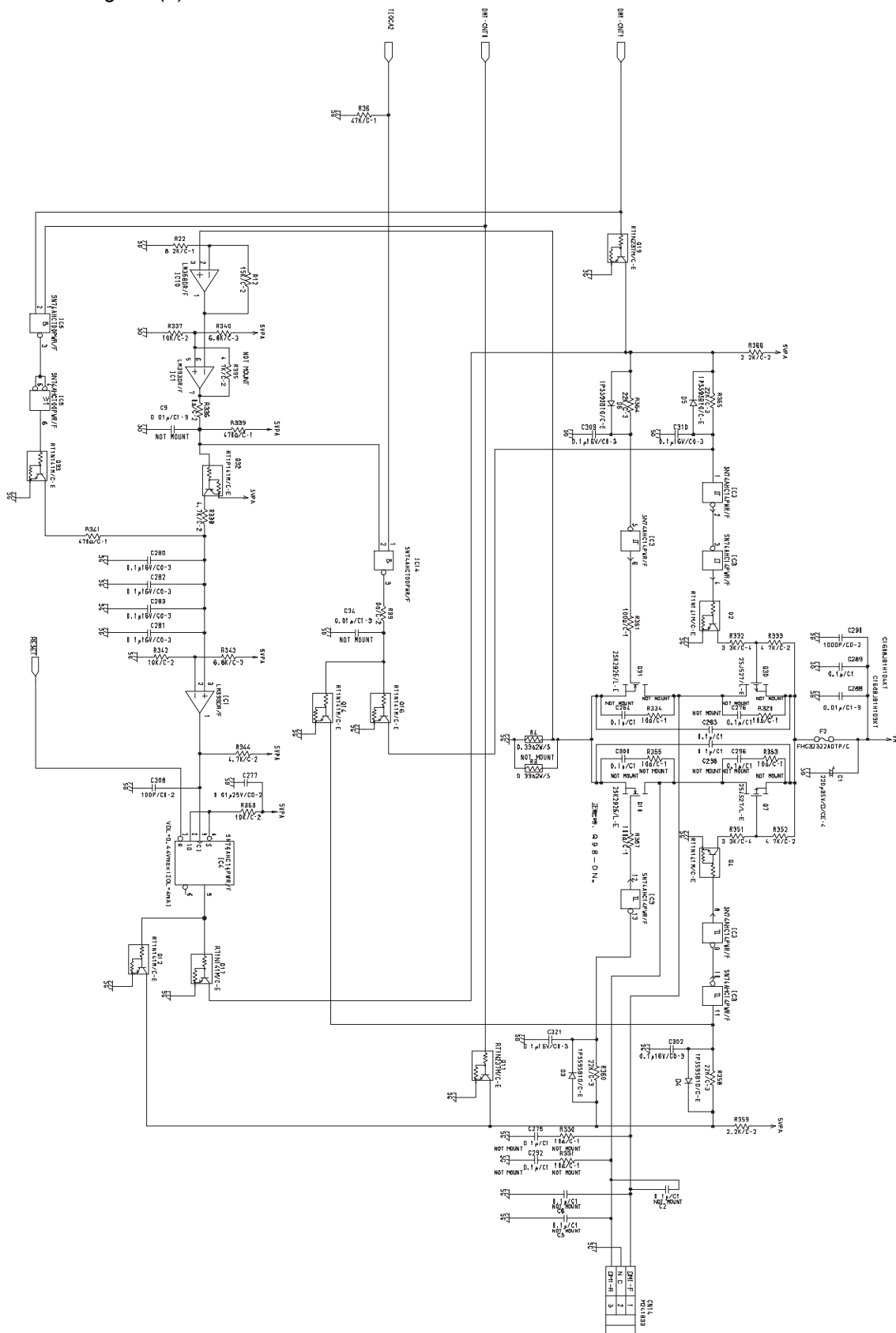


Fig. 8-25

8. Circuit Diagram (8)

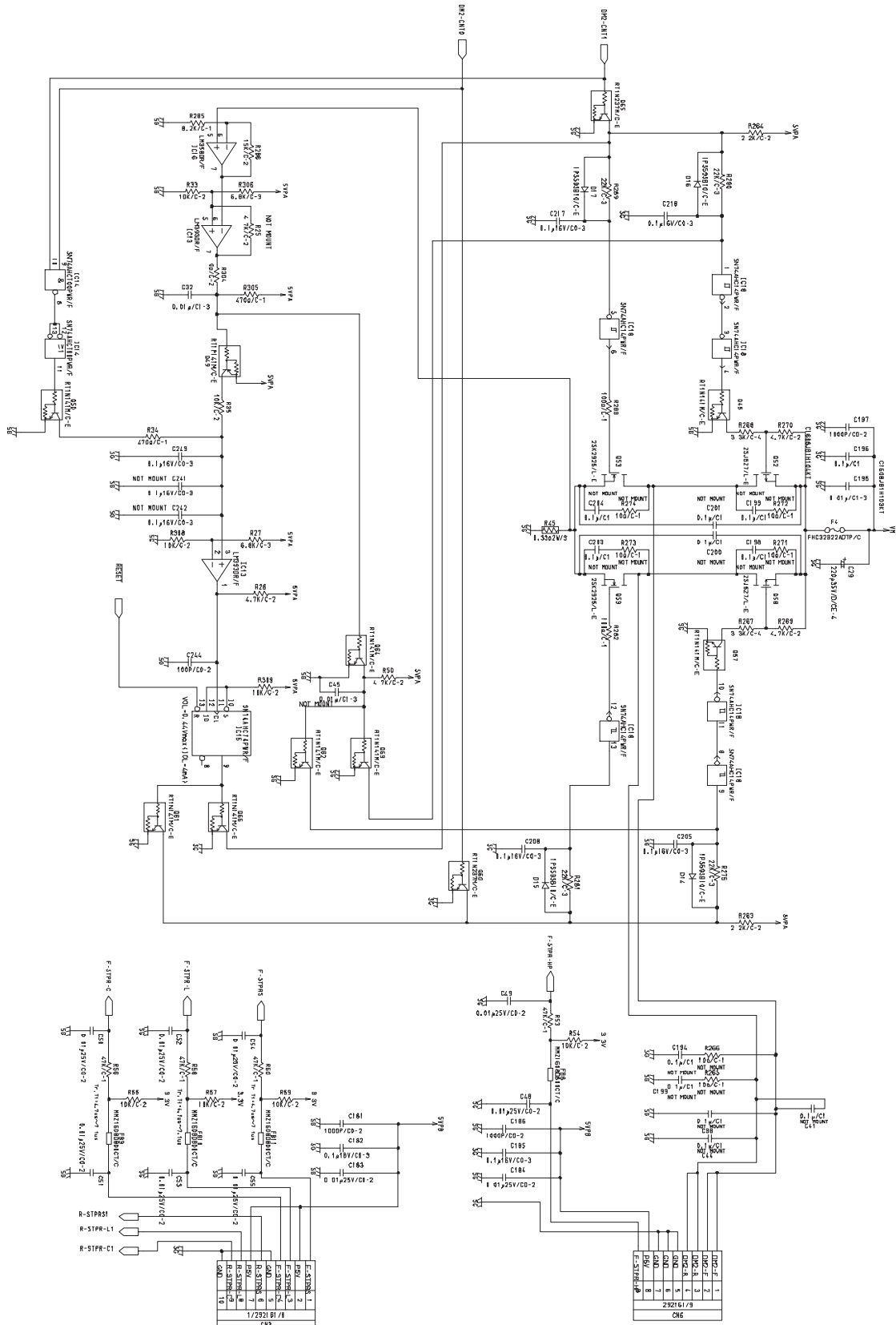


Fig. 8-26

9. Circuit Diagram (9)

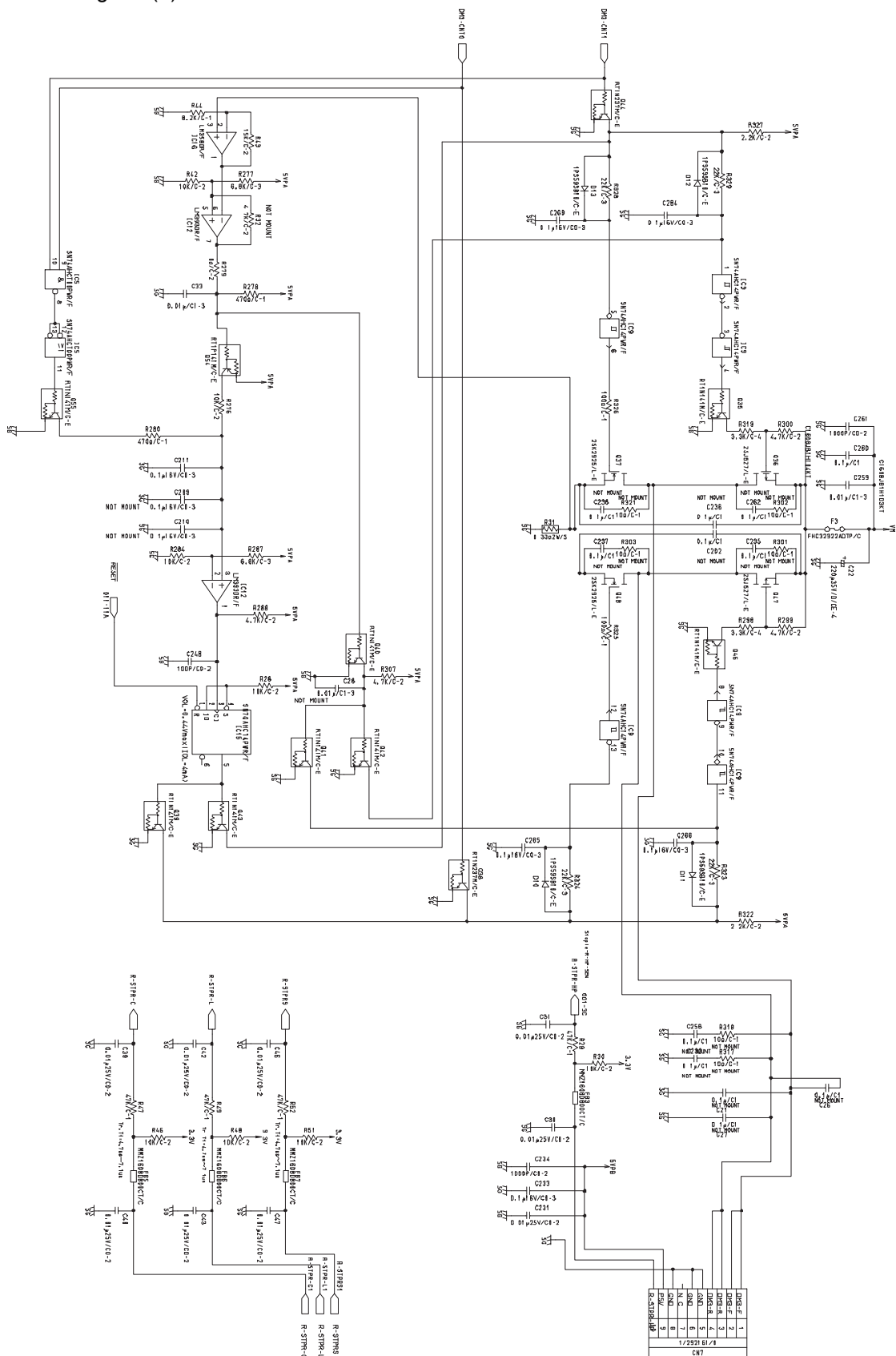


Fig. 8-27

10.Circuit Diagram (10)

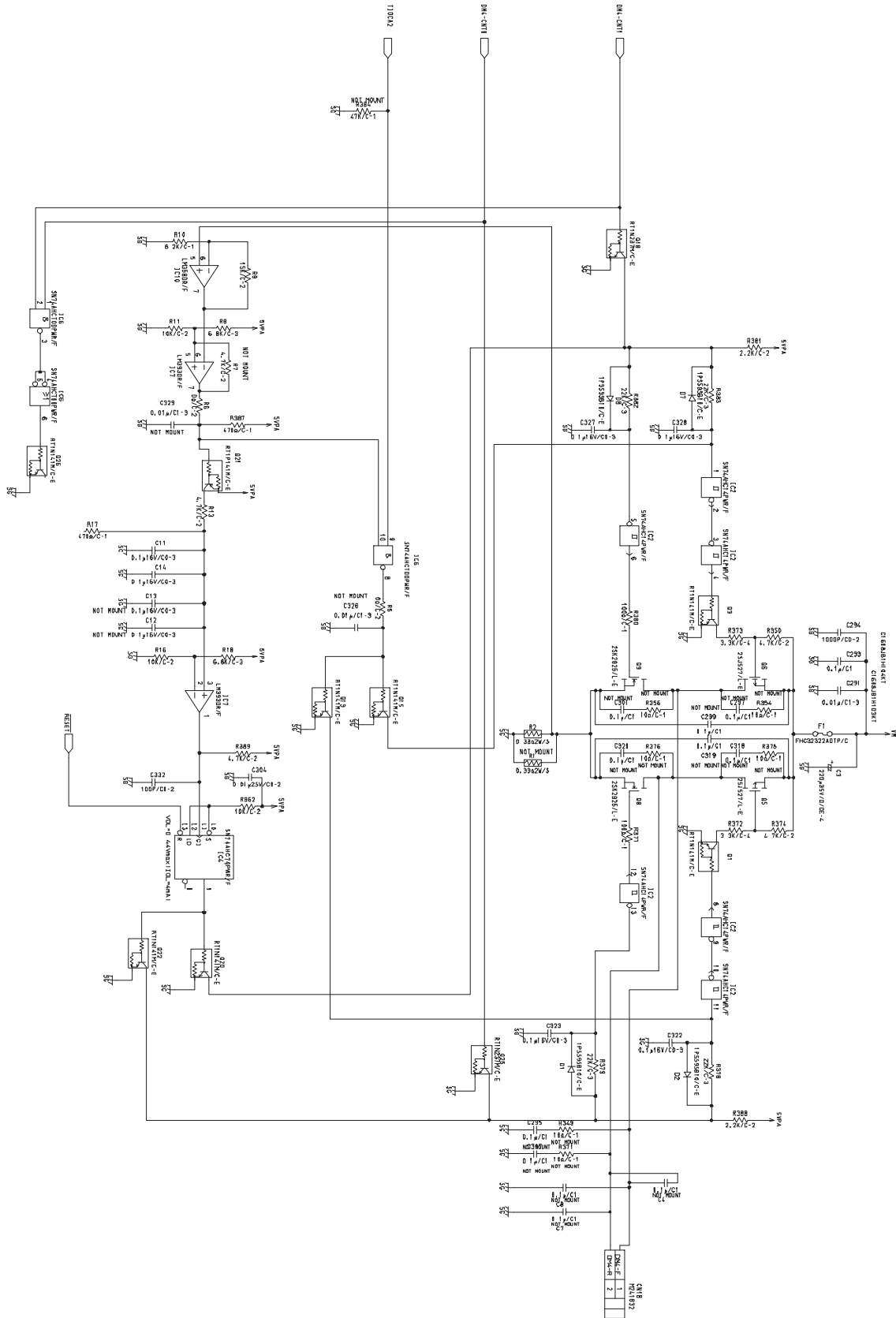


Fig. 8-28

11. Circuit Diagram (11)

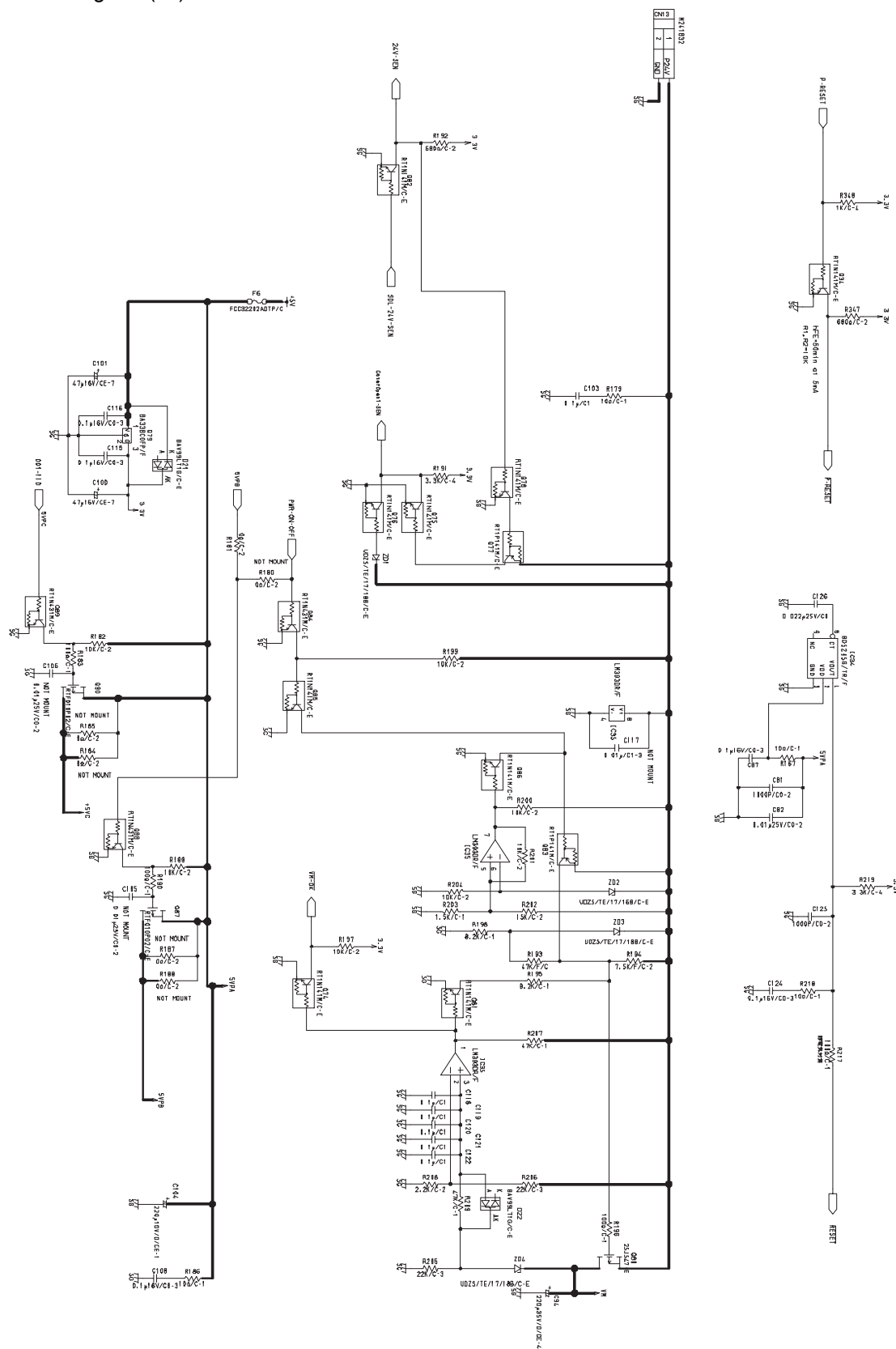


Fig. 8-29

8



8.3 PC board

[A] Finisher controller PC board

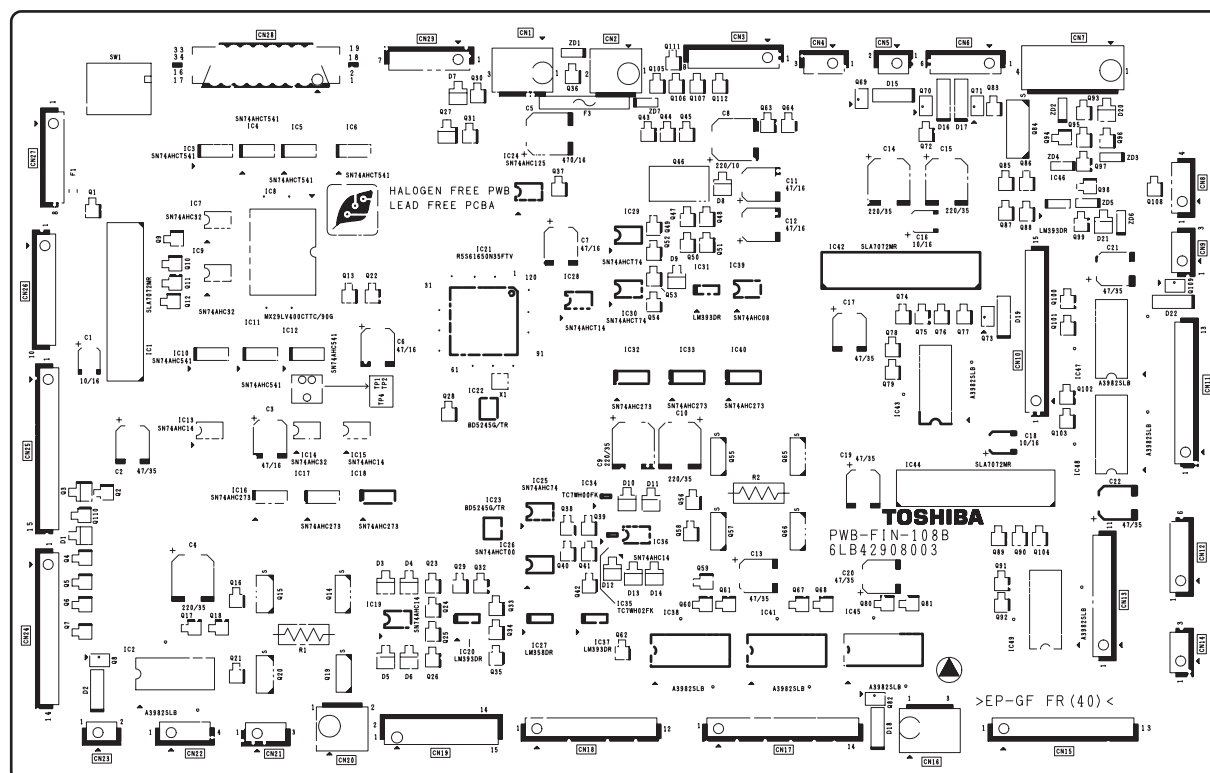


Fig. 8-32

[B] Interface PC board

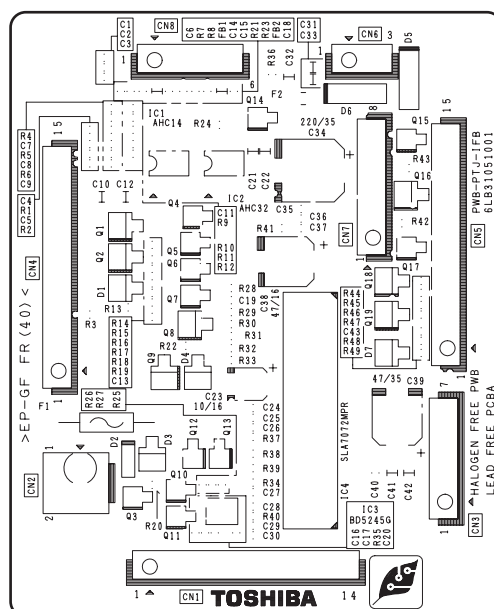


Fig. 8-33

[C] Saddle control PC board

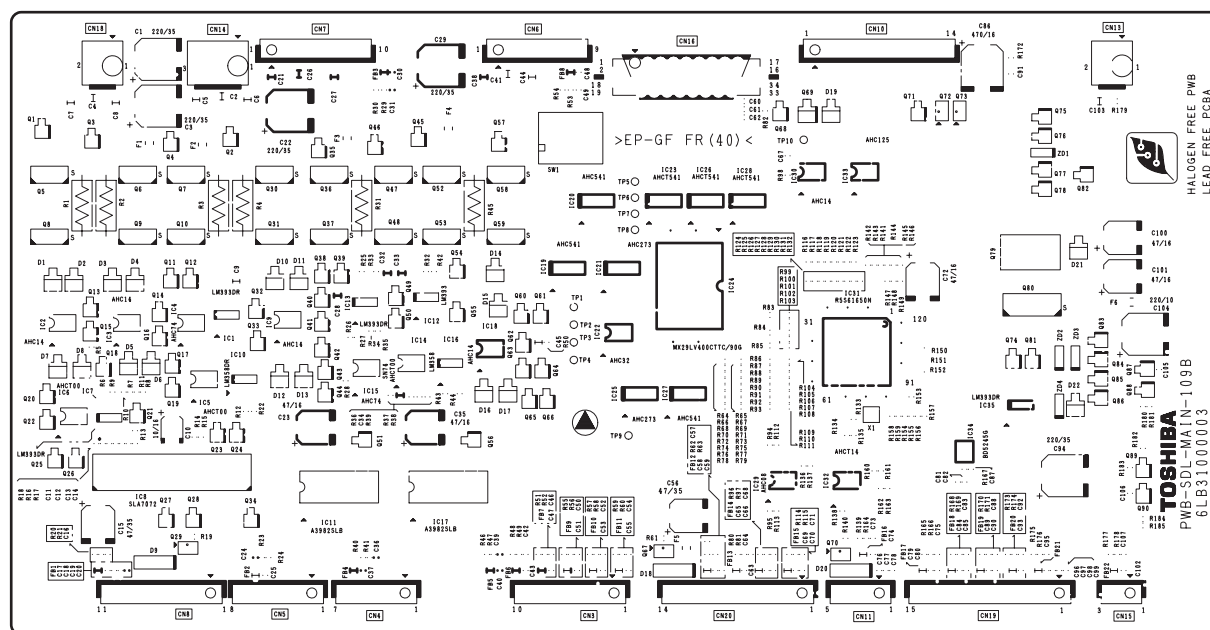


Fig. 8-34

REVISION RECORD

Ver.03

Ver.03 <2009.06.30>	
Page	Contents
4	A general precaution has been added.
4-97	Fig. 4-275 has been added.
4-98	Fig. 4-276 has been added. Notes are deleted.
7-2	The part number of Molykote has been changed.
7-5	The part number of Molykote has been changed.
8-1 to 8-4	The pin numbers and signal names are added to the harness diagrams.

Ver.02

Ver.02 <2009.02.02>	
Page	Contents
4-32	Removal of fold plate has been added.
8-3 to 8-14	The circuit diagrams from Fig. 8-4 to Fig. 8-15 have been changed.

Ver.01

Ver.01 <2008.11.28>	
Page	Contents
1-5	The description of "Unlimited mode" has been deleted. (Error Correction)
2-9 to 2-12	The page and item number in the parts list have been added.
4-31	The part number and part name for jig have been changed.
5-1	The description of Fig. 5-1 has been added. The illustration in Fig. 5-1 has been changed. Fig. 5-2 has been deleted.
5-4	The description of Fig. 5-4 has been added. The illustration in Fig. 5-4 has been changed. Fig. 5-6 has been deleted.
5-8	The description of Fig. 5-12 has been added. The illustration in Fig. 5-12 has been changed. Fig. 5-15 has been deleted.
5-10	The description of Fig. 5-14 has been added. The illustration in Fig. 5-14 has been changed. Fig. 5-18 has been deleted.
5-12	"5.4 Saddle Stitch Skew Adjustment" has been added.
7-6	The title for "7.2.1" has been changed. (Error Correction)
7-7	The illustration in Fig. 7-11 has been changed.
8-1 to 8-29	The illustrations in Fig. 8-1 to Fig. 8-30 have been changed.

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